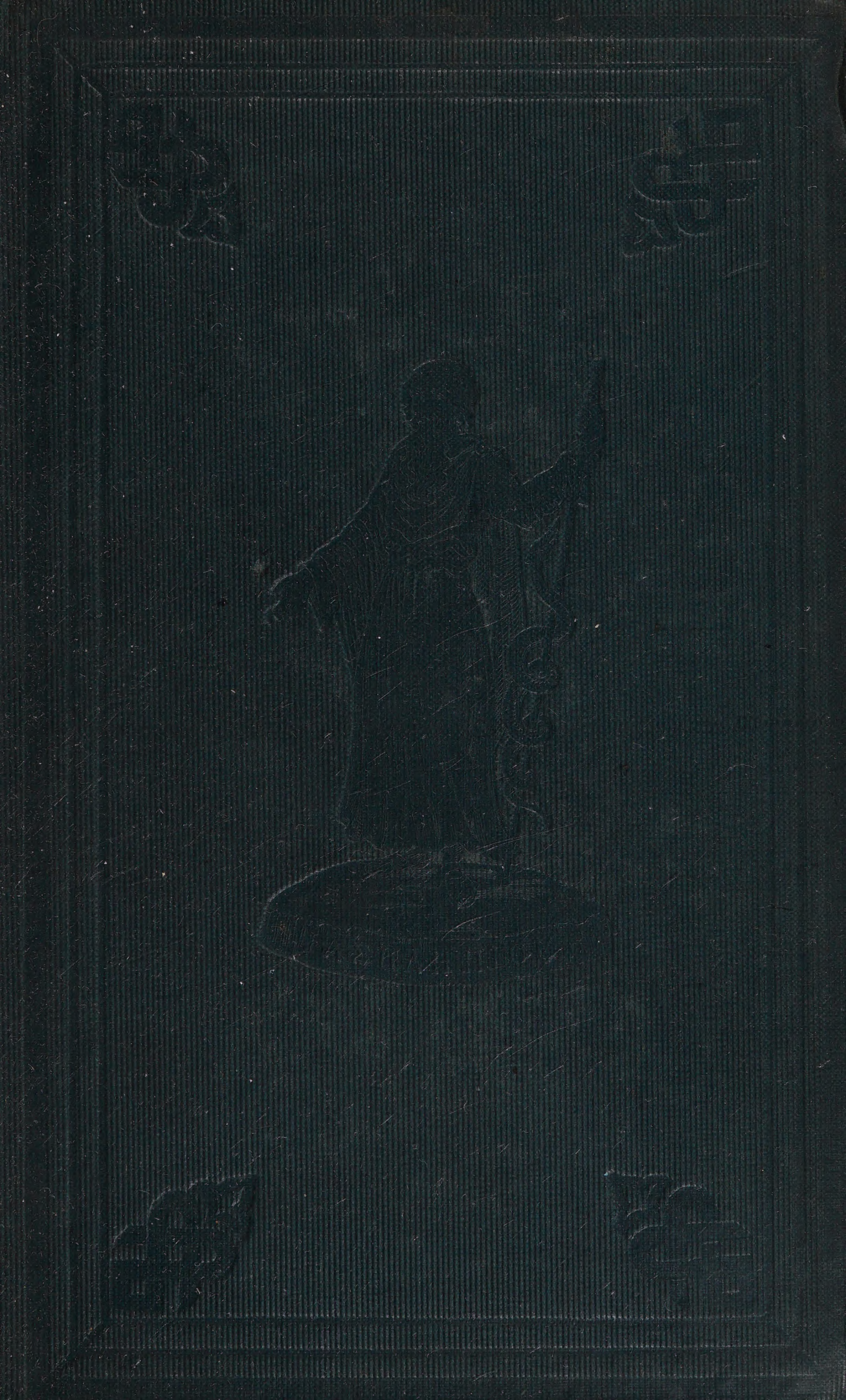

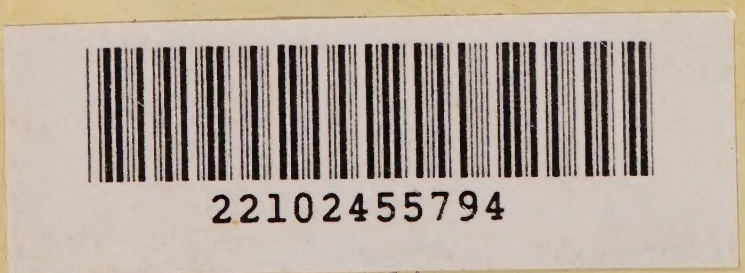
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HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES.

JULY—DECEMBER.

1868.

THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

VOL. XLVIII.

JULY—DECEMBER, 1868.

LONDON:

JOHN CHURCHILL & SONS, NEW BURLINGTON STREET.

EDINBURGH: MACLACHLAN AND CO. DUBLIN: FANNIN AND CO.

MDCCCLXVIII.

Vol. XLIX. will appear on the 1st of July, 1869.

Books, &c., for notice, to be sent as soon as published (carriage free) to Messrs. Churchill, New Burlington Street.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

Art. 1.—*Zymotic Theory of Disease.*

By William Farr, M.D., F.R.S.

(*Medical Times and Gazette*, August 15, 1868.)

Dr. Farr, in his recent official report on the cholera epidemic of 1866, sums up his conclusions in regard to the zymotic theory in the following words:—

"It is now held by naturalists that each organ of the body has its proper life; and that it consists of minute centres of action, which have been called cells, globules, organic units, germs, granules, and other names. The cells, like the supposed vesicles of the clouds, are now shown to be solids, and Beale proposes to call them 'germinal matter,' which is perhaps a description rather than a name. 'Monad' would serve to designate these living particles, but as it, as well as the other names proposed, have been already appropriated, these units of force and life may be designated *biads*. Nearly alike under the microscope, *biads* differ infinitely in power and variety; for instance, the brain-cells of man in an early stage of development resemble the pus globules of ordinary inflammation. 'Masses which could not be distinguished from one another [even by Dr. Beale], manifest the most remarkable differences in power.' . . . 'By chemical analysis every kind of germinal matter (*biads*) yields one substance resembling fibrin, another allied to albumen, fatty matter, salts, and water.' Of these *biads* all bodies are built up.

"It is only with particular kinds of these *biads*, then, that we have to do in *zymosis;* and to give definite form to the theory, while *vaccine* lymph may be briefly called *vaccinine*, the granules of Chaveau may be named *vaccinads;* while those of *varioline* (smallpox lymph) are named *variolads;* those of *syphiline*, *syphilads*, and those of *cholerine*, *cholerads*, the choleragenic molecules of Pacini.

"It is life in this low form, where it is developed in isolated particles at war with those which constitute men, that generate zymotic diseases. An epidemic is the war of a conquering host of innumerable particles of life. It is therefore subject to the laws of growth and decay, both in the individual man and in communities."

Art. 2.—*On the Treatment of Cysts of the Liver.*

By Dr. Blachez.

(*L'Union Médicale*, No. 86, 1868.)

P——, aged forty-nine, a cachectic-looking man, by occupation a printer, was admitted into the Hôtel Dieu, Oct. 28th, 1867, with swelling and pain in the right hypochondrium, attributed to a fall on the left side which occurred five weeks before. There had been difficulty of breathing, and the man had suffered from general debility. He had never had intermittent fever, syphilis, or alcoholism.

On admission the abdomen was found enlarged, and presented a remarkable arch in the hepatic region. The base of chest was enlarged on the right side, and the lower ribs were elevated and divergent. Dr. Blachez made out a large tumour of the liver, which was smooth, not distinctly fluctuating nor trembling. It extended from the nipple to the middle of the abdomen, and reached a horizontal line carried over the umbilicus. It passed beyond the middle line, and was continuous with a similar tumour, as to consistence, which filled the splenic region. The tumour in the latter region did not mount so high as that on the right side, but the inferior limits were the same. In the middle line there seemed to be a separation of the swelling into two tumours—one hepatic, the other splenic. There were dulness and absence of vibration at the lower part of both sides of the chest behind. Auscultation revealed a souffle and ægophony. There was no ascites. Skin was pale and not jaundiced. Urine normal. Pulse feeble, but not frequent. Slight anæmic bruit at base of heart and in the vessels of the neck. There was a great increase in the proportion of white blood corpuscles. The treatment at first consisted in mild evacuants, diuretics, a tonic régime, and blisters over the lower part of chest. The patient was not benefited; and as the tumour did not decrease in size, and life was frequently in danger from attacks of suffocation, an exploratory puncture was made on the 10th of November. Two and a half litres of a limpid lemon-coloured fluid were evacuated. In this fluid were found living echinococci. The patient was much relieved by the discharge.

On the 19th of November caustic potash was applied to the skin over the hepatic tumour two fingers' breadth below the false ribs. This was repeated every third day on three occasions: the eschar was afterwards cauterized with *caustique Filloz*. On the twentieth day, December 10th, the cyst was opened and 300 grammes removed of a brown fluid containing gelatinous flakes, and precipitating on the addition of nitric acid, a considerable amount of the colouring matter of bile. The fluid contained no traces of hydatid membrane, nor were any débris of echinococci discovered.

The cyst was afterwards treated twice in the day in the following manner:—A tube of vulcanized caoutchouc was introduced through the opening, and served to transmit to the deepest parts of the tumour an injection of spirit and water. The cyst, when emptied and cleansed, was injected with water containing a small quantity of tincture of iodine. This injection was allowed to remain.

On December 23rd, cystic debris were passed, and the quantity afterwards increased daily. The shreds of membrane were thick, gelatinous, yellow in colour, and smooth. They presented no traces of echinococci. As the cyst emptied itself, the symptoms of pleurisy disappeared. The condition of the patient seemed favourable. He took nourishment freely and had no fever; the size of the tumour had diminished considerably. A cure was expected, but towards the middle of January the discharge became fœtid, hectic fever came on, and the patient became weak. Erysipelatous spots frequently presented themselves around the opening into the cyst. On the 31st of January there was serious hæmorrhage. Violent abdominal pains supervened, and the patient died on the following day.

Autopsy.—The external orifice led to a fistulous passage two and a half centimetres in length, of the size of the finger, and with thickened and firmly organized walls. This communicated with a pouch in the left lobe of the liver. The right lobe of the liver was healthy. The tumour of the left lobe extended into the left hypochondrium, and had compressed the spleen, which was very small.

The cystic pouch was considerably reduced, and of the size of the fist. It was lined by a fibro-serous membrane, on the surface of which were seen some small cysts completely evacuated. It contained a small quantity of sanious pus. At the back part of this pouch were two orifices, each about one centimetre in diameter, one of which was surrounded by recent blood-clots. These openings conducted to an after cavity, presenting the same appearance as the principal cavity, and lined like it by an adventitious but much softer membrane; the dimensions of this second cavity were less than half those of the principal one. On the left side it communicated with the peritoneum. This second pouch was situated without the liver, between the gland and the diaphragm. On examining the composition of its wall no trace of glandular tissue was found. This pouch was composed exclusively of false membranes formed between the convexity of the liver and the concavity of the diaphragm.

Peritonitis had recently existed, and was characterized by soft adhesions gluing together the intestines, the surface of which was covered by a glutinous material. A small quantity of pus had also collected in the dependent parts of the peritoneal cavity.

The structure of the liver external to the pouch was not sensibly modified. The kidneys and intestinal canal were healthy. The lungs, the right one particularly, were covered by resistent adhesions. There was no trace of pleuritic effusion.

Remarks.—In reviewing the principal points of this case, we see that the cyst did not determine any painful affections before the occurrence of a fall, the contre-coup of which was felt in the right hypochondrium. It had evidently existed previously, from an epoch which it is impossible

to determine. The exploratory puncture, by giving issue to an enormous quantity of fluid, sufficiently indicated that the cyst was unilocular. This puncture was followed by considerable relief. The cyst filled again, but slowly, and when it was determined to apply caustics, it was not half the size it presented at the time of the patient's admission. We have seen how long it took to reach the cyst; and how at the end of a few weeks, during which a cure was anticipated, general infection came on, and then a perforation causing death. There is, then, nothing in the case itself particularly worthy of calling attention to, but it has been published from the fact that some reflections have been suggested by it, which perhaps may be of such a nature as to modify the habitual treatment of large cysts of the liver

In the first place, the diagnosis was surrounded by great difficulties. When the patient was admitted, there was evidently in the hypochondrium a smooth transversely oblong tumour, which projected forwards, and manifested a very obscure fluctuation. In a word, such a tumour as one observes in cystic diseases of the liver. But this swelling extended into the left hypochondrium; and, although without a well-marked line of demarcation, presented a groove in the median line, and descended in the left flank as far as the level of the umbilicus. This explains how the idea of a simultaneous hypertrophy of the liver and spleen, and leucocythemia at first occurred to my mind. An examination of the blood proved that there was an increased proportion of white corpuscles; but this fact did not prevent me from subsequently altering my former views. It is probable, as the autopsy would lead us to conclude, that before the exploratory puncture, the cyst situated in the left lobe of the liver was largely developed in the direction of the splenic region, pushing backwards the spleen, which was found very small, and at the same time thrusting the great mass of the liver outwards and upwards. This difficulty being removed, and the nature of the tumour decided by puncturing, the question of the treatment next occurred.

On consulting authorities upon this point it will be found that they rest content with describing, with more or less detail, the various methods—such as, single or multiple exploratory punctures, cauterization, incisions—and that they do not indicate under what conditions such or such an operation should be preferred. One sees that a certain plan of treatment has succeeded in a certain number of cases, and is led to make a common application of that which has entailed the greatest number of successful results.

I will attempt to fix the indications which should guide the practitioner in his choice of an operative plan of treatment. Every hydatid cyst is not amenable to the same treatment; and I am inclined to think that a better one might have been applied to the case which we have in view.

The exploratory puncture made by means of a trocar indicated, by the quantity of fluid to which it gave exit, that we had, to all appearance, to deal with a single hydatid cyst. The large quantity of free and living echinococci which floated in this liquid strengthened our presumption. The patient, as we have stated, was very much relieved by this primary operation, and the fluid collected again somewhat slowly.

With a like result I must assert, that in another case I should

have suspended further interference. It would seem preferable to me to let the patient rest with the benefits derived from the first operation, and to profit by the amelioration obtained from it by putting him on a restorative régime; to discharge him from the hospital for a time, and before having recourse to farther proceedings, to wait until the development of the tumour had given rise to fresh symptoms. Then a fresh puncture might have been made, and again renewed, as long as the nature of the fluid would have permitted us to keep up the practice of a simple evacuation. I must not ignore the fact that one of the most distinguished of my confrères has had the misfortune to lose one of his patients after a single puncture of this kind. But I do not think that a single fact is sufficient to discredit an operation which is generally harmless. We ought, however, to derive the practical precept from this instance, that capillary puncturing should be made with certain precautions, the chief of which seem to be that the fluid should be allowed to flow completely and until the last drop, and that the abdominal wall should be supported before the withdrawal of the trocar. We must guard against the penetration of the cystic fluid into the peritoneal cavity, as it is clear that the patient is exposed to this accident if the trocar is withdrawn whilst the cyst is still filled, and preserves so much of its elasticity as to force outwards some of its contents.

I think, then, that capillary puncturing is one of the least dangerous means which can be employed for the cure of cysts of the liver; and it has been proved by numerous examples that this puncture has, in some cases, been sufficient for bringing about a radical cure. This plan, therefore, should be kept to so long as fresh indications do not present themselves, and necessitate some other treatment; and in those cases particularly where the cavity of the cyst can be completely, or almost completely, evacuated.

In those cases where an exploratory puncture gives exit but to a small quantity of fluid, or where there is reason to suppose that the pouch contains a large quantity of hydatid vesicles, we have indications for resorting to some radical operation more or less dangerous to the patient—either cauterization or incision of the cyst. These indications are presented when, in dealing with a supposed single cyst, we obtain purulent discharge after a frequently repeated capillary puncturing. But when a capillary puncture suffices to empty almost completely a cyst of the liver, and when the fluid contains no inflammatory product, I think the interest of the patient compels us to keep to this relatively inoffensive proceeding, and to repeat it as often as is considered necessary, and that the cyst should not be opened until the capillary puncture has ceased to be of service, and when the condition of the patient compels us to intervene with a more radical proceeding.

When these latter indications are presented, one is generally content with penetrating into the cyst by means of caustics alone, or by some mild proceeding—caustic and incision. By one of these plans we endeavour to establish a communication with the interior of the cyst by means of a narrow passage, which must be frequently dilated by prepared sponge or some other agent, in order to act against its continual tendency to become obliterated. The disorganized fluid contained in the

cyst is evacuated with difficulty; and although I made, in my patient, an opening through which the ring finger would penetrate with ease, I found that the cyst contained foul liquid every morning, and required frequent cleansing and dressing, in the manner already described. All the disinfectants employed in this case were attended with but very incomplete benefits. I am inclined to think that it would be better, on future occasions of attacking cysts in this manner, to apply the caustic from the first in such a manner that two openings might be made a short distance from each other, and over the most prominent parts of the tumour. These openings might be joined together if any indications required it during the progress of the treatment. One may readily comprehend how much this plan would facilitate the dressing of the cyst, the evacuation of its contents, and the introduction of drainage tubes and injections, &c.

In cases of this kind it is of capital importance to diminish as much as possible the duration of the treatment. How many patients succumb, without any special accidents, from nothing more than the exhaustion set up by prolonged suppuration, when the cyst is almost completely contracted, and when no more is required for a cure than a few days of resistance on the part of the organism.

Art. 3.—*Abscess of the Liver.*

By Charles Murchison, M.D., F.R.S.

(*Clinical Lectures on Diseases of the Liver, Jaundice, and Abdominal Dropsy.*)

"After duly balancing the dangers of operation against the dangers of expectancy," Dr. Murchison says, "I do not hesitate to recommend to you the propriety of evacuating the pus in a large number of cases of tropical abscess of the liver. The operation may not be free from danger, but to wait in these cases upon Nature, as it is called, is to wait upon Death, and I would suggest for your guidance the following rules:—

"*a.* In all cases where there is a visible fluctuating tumour, operate at once.

"*b.* In cases where the symptoms of abscess of the liver are present, with a distinct tumour projecting from the normal contour of the liver, or causing bulging of the ribs, even though there be no perceptible fluctuation, it will be well to operate.

"*c.* When symptoms of abscess coexist with uniform enlargement of the liver, but with no distinct tumour or bulging, if there be any local œdema, or obliteration of an intercostal space, or acute pain, always localized to one particular spot when the patient takes a full inspiration, it will be well to operate; but if there be no such œdema or obliteration or pain, it may be better to wait, as the enlargement may possibly be due to multiple abscesses, or, if there be but one abscess, it is doubtful if it will be reached.

"When the operation is resolved on, it may be performed as follows:—

"*a.* When there is distinct pointing, with an inflammatory blush of the skin, an opening may be made with a bistoury.

"*b.* Under other circumstances, a small trocar will be preferable, and it ought to be introduced wherever there is the slightest fulness or superficial œdema, or acute pain.

"*c.* When the abscess is small, not holding more than ten or twelve ounces, it ought to be completely evacuated, and the canula tied in for two or three days. On its removal, a tent of lint dipped in oil may be substituted.

"*d.* When the abscess is very large, it will be better to evacuate it by instalments at short intervals, carefully excluding the air on each occasion.

"*e.* In the exceptional cases where no adhesions exist, it will be prudent to produce them by the local application of caustic potash, before puncturing.

"*f.* After the operation, a large warm poultice should be applied over the liver, and the patient should lie on it, taking care that, if the canula has been left in, pressure upon it is obviated by a suitable pad or pillow. A full dose of morphia ought also to be administered at once."

ART. 4.—*Diseases of the Abdominal Viscera.—(Abscess of the Liver.)*

By STEPHEN H. WARD, M.D. Lond., Physician to the Seamen's Hospital "Dreadnought," and to the Hospital for Diseases of the Chest, Victoria Park.

(*The Lancet*, August 1.)

"Abscess of the liver," Dr. Ward says, "is not always readily diagnosed. In some of my cases the more striking symptoms were wanting; whilst in cases where the indications of the affection seemed conclusive, and the patients died exhausted by the dysenteric process, no abscess was found. Still there are symptoms which, especially when taken in the aggregate, may be regarded as tolerably conclusive. These are," Dr. Ward writes—

"1. *Bulging of the ribs*, or prominence of the liver below them, especially if over such prominence fluctuation can be detected.

"2. *Pain* (*a*) *direct*—superficial and acute if the abscess be so near the surface as to involve the peritoneum; deep-seated and detected by firm pressure over the hypochondrium when the abscess is away from the surface. In connexion with this direct pain may be noticed the position of the patient, who is generally most at ease on his back, feeling a dragging sensation if he turns on his left side, and pain from pressure if he lies on his right. A throbbing pain is also felt when active suppuration is going on. (*b*) *Distant pain*, referable to the right shoulder, and especially localised about the acromion process. I am pleased to be able to dismiss the unsatisfactory term 'sympathetic' in reference to this pain, seeing that it is caused by direct irritation of

nerves. In his Hunterian Oration, Mr. Hilton explains the transference of pain to the shoulder, in hepatitis generally, by the fact that the right phrenic nerve arising from the third and fourth cervical gives off a branch, which takes its course under the inferior cava, through the fissura venosa into the porta of the liver, and finally, also one or two filaments to the round ligament. It will be remembered also that the cervical nerves, from which the phrenic proceeds, send branches to the skin about the shoulder. What is the value of this symptom in the diagnosis of abscess? Not, I think, great, unless taken in connexion with other symptoms. It was present in eight of my cases, and in only seventeen per cent. of cases collected by Rouis. Annesley regarded it as pathognomonic of abscess in the upper part of the right lobe, and Budd's experience accords with his. This view I cannot confirm. The symptom in question was present in one case in which the abscess was opened below the ribs, and was clearly at the lower part of the liver. It was absent in two cases in which the abscess had opened into the lung, and also in two cases in which there were several abscesses in different parts of both lobes of the liver. The anatomical explanation is, I imagine, that pain in the shoulder would be present only where the abscess involves the part supplied by the branches of the phrenic nerve.

"3. *A rigid state of the right rectus muscle* was regarded by Twining as distinctive of deep-seated hepatic mischief. This symptom existed in a few of my cases, but I have observed it in connexion with other abdominal affections, and I think with Morehead that it is merely a natural effort to ward off pressure from a tender part beneath; and that, while such contraction may be a valuable sign of subjacent inflammation, it has no special relation to hepatic disease.

"4. *Jaundice* existed in only three of my cases. In a case in which the hepatic structure was almost destroyed by abscesses it was profound; in another case, connected with general pyæmia, it was slight and persistent. Its absence would rather help in the diagnosis of abscess from other affections of the liver, and may be explained by the fact that a large portion of the organ is usually left intact for the performance of its functions.

"5. *Rigors* and *hectic fever* are symptoms which would probably be present where the suppurative process is in activity, and which, especially when associated with dysentery, would materially aid in the diagnosis.

"Other symptoms, of characteristic import, would vary with the course taken by the abscess. If it is about to open externally, we should have redness of skin, fluctuation, pointing, &c. If, which is perhaps the most common result, it effects an opening into the lung by adhesions with and ulceration through the diaphragm and its serous investments, we have an additional series of symptoms, which will be noticed subsequently.

"The stools are usually natural—loose rather than otherwise—and unless much liver-structure is involved, fairly charged with bile. The urine is almost always high-coloured, and my experience agrees with that of Mr. Busk, who tells me that he has almost invariably found it to contain a pink or lateritious sediment.

"The following case may be introduced here in illustration of the symptoms and course of the affection :—

"D. B——, aged thirty-eight, an Irishman, was admitted into the *Dreadnought* on Dec. 3rd, 1857. He had twice had ague: once, nine years before, in New Orleans, for three weeks ; and again, two or three months since, on the coast of Africa. About two months back he was attacked with diarrhœa, which soon merged into dysentery of an acute character. He had never suffered from this latter complaint before. He was comparatively well from the dysentery at the end of a week or so; but felt prostrate, had no appetite, and continued to suffer from pain in the abdomen. For the last three weeks the pain has centred in the right hypochondrium, and been attended with dyspnœa and cough.

"*Symptoms on admission.*—Complains of pain in the right hypochondrium, increased by firm pressure of the entire hand, and extending over the epigastrium. The abdominal muscles are rigid ; there is no marked enlargement of liver, or undue prominence over its site. He has dry cough, and short, catching respiration ; and there are loud râles in front of the right side of the chest. The stools are loose, and contain plenty of bile. The pulse is rapid, the skin hot and dry, and he appears emaciated. Complains of pain in the right shoulder. Was ordered dry cupping over the hypochondrium, salines, with liquor potassæ and tincture of hyoscyamus, and calomel and opium every four hours. Was placed on milk diet.

"Dec. 6th.—Much relieved by the cupping ; can lie on the back, but not on the left side. On inquiry it appears that he has had shivering at times without feeling cold, and that it comes on when he is dozing. Ordered to discontinue the calomel, to have a large linseed-meal poultice applied over the right side, and, as the bowels were rather confined, a dose of castor oil was prescribed.

"7th.—Bowels have acted three times ; stools bilious ; urine high-coloured, of sp. gr. 1020.

"On the 9th he vomited a quantity of thickish green fluid, and afterwards felt relieved. From this day to the 14th he appeared to improve; but on the 14th complained of more pain in the right side. On the 17th it was found that he had been sweating profusely in the course of the two or three previous nights. He was now put upon a course of nitro-muriatic acid, which was continued, with apparent benefit, for a week or two, the motions maintaining a healthy character, and the constitutional disturbance being less marked.

"Jan. 7, 1858.—Has more pain, and there is undue fulness over the region of the liver, though no material enlargement downwards. Leaning on the right side causes pain, and he complains of pain and soreness in the right shoulder and along the inner side of the arm. Ordered the nitro-muriatic acid bath every night. This seemed to do good, especially as regards the functions of the liver, and in diminishing the hectic fever.

"On the 26th he complained of formication over the chest and abdomen, and occasional hiccough, and the bath was discontinued.

"On the 29th he was worse; felt much prostration; more pain in the right hypochondrium, increased on moving or coughing, and he had sweated copiously at night.

"From this date, through the month of February and greater part of March, he continued, with occasional improvements for a day or two, to get worse; the hepatic symptoms and indications of suppuration becoming more marked, and the constitutional disturbance, in the way of hectic fever and subsequent perspirations, greater.

"March 26th.—The abscess is pointing just above the angle formed by the junction of the cartilages with the osseous portion of the last ribs. The liver extends about an inch and a half below the normal limits. The adhesion of the liver with the parietes is determined by the former not shifting its position with a shifted position of the patient, or with the acts of expiration and inspiration. As the patient was becoming exhausted, it was determined to open the abscess. This was accordingly done with a sharp-pointed bistoury, and about a pint of curdy pus escaped. The abscess continued to discharge, especially under the acts of coughing and deep inspiration, and the severer constitutional and local symptoms were relieved. He continued, however, notwithstanding the free administration of brandy, wine, and beef-tea, to get more prostrated and emaciated, and died on April 5th.

"*Inspection.*—Body emaciated. Liver encroaching on the right half of the chest to the level of the third rib. Right lung compressed, carnified below, œdematous above. At the apex three cicatrices, but no evidence of present tuberculous condition. Left lung healthy. Anterior surface of liver firmly fixed to abdominal parietes for several inches around the external aperture. Weight of liver, six pounds and a half. In the right lobe there was a large abscess, with smaller ones communicating with it. It had burrowed outwards and downwards until it reached below the ribs, then forwards and through the parietes. No appearance of gangrene. A number of smaller abscesses, about the size of a walnut, occupied the right and left lobes, and contained greenish pus. Intervening hepatic structure healthy. The spleen weighed six ounces, and was healthy; right kidney pale and flabby, left healthy; some of the mesenteric glands enlarged. Large intestine dotted over with circular ulcers, with raised indurated borders; a few had irregular congested borders. The mesenteric and portal veins were healthy."

Art. 5.—*Hydatid of the Liver Disappearing under the Administration of Iodide of Potassium.*

Reported by N. Heckford, Esq.

(*British Medical Journal*, September 26.)

About two years ago a young woman, aged twenty-two, came under treatment for what was diagnosed to be a hydatid of the liver. The tumour was undoubtedly connected with this organ, and occupied the whole of the epigastrium and part of the left hypochondrium. It was smooth, globular, dull on percussion, semi-elastic, and indistinctly fluctuating. The parasite was evidently growing rapidly, as the patient had not noticed the enlargement until the previous fortnight. As is usual, there was little constitutional disturbance, some pain and dyspepsia being

the only attendant symptoms. She was put under a course of iodide of potassium—thirty grains a day—and at first as a mere matter of form. To the surprise of all, however, the tumour began to diminish, and by the end of five weeks had entirely disappeared. The measurement round the waist decreased to the extent of four inches and a-half during this time.

Here arose another interesting point. The girl, judging from her physiognomy, was, without doubt, the subject of inherited syphilis. Was the case, then, possibly one of syphilitic infiltration of the liver? Unhappily, two months afterwards its true nature was definitely ascertained. The patient, whilst apparently in good health, was seized with acute hepatitis, which terminated fatally. She had frequently recurring rigors, bilious vomiting, local pain, diarrhœa, sweating, and rapid emaciation.

After death, several abscesses were found in the right lobe. With the exception of a small portion of its free edge, the left lobe was wanting, its place being occupied by a shrunken hydatid cyst, which contained some clear yellowish fluid. There was no decomposition of the cyst-wall or its contents. Mr. Heckford is of opinion, therefore, that the abscesses were not the result of septic poisoning, and that, so far as the hydatid went, she was cured. There were no evidences of pyæmia in the other organs.

Art. 6.—*On Temporary Disturbances of Vision with Typhus Fever and Scarlatina.*

By Professor Henoch.

(*Berliner Klinische Wochenschrift*, 1868. *Aerztliches Literaturblatt*, No. 6, 1868.)

Prof. Henoch reports one case of scarlatina, and one of typhus, in the course of which temporary amblyopia was noticed. In the former case the exanthem commenced on Nov. 18th, and œdema together with the presence of albumen and blood in the urine, was observed on Dec. 5th; eight days later there was vomiting, and afterwards severe headache and well-marked amblyopia. An uræmic attack, which came on immediately and lasted for several hours, ceased after applying leeches and ice, and administering strong purgatives. On the following day the uræmic symptoms and also the impairment of vision had entirely disappeared, and a slight headache was the only remaining symptom; the amaurosis had not lasted for longer than twenty-four hours.—The subject of the second case was a youth aged twelve years, who at the end of the second week of an attack of ileo-typhus was seized with complete blindness, which lasted for forty-eight hours, and on the fourth day had completely disappeared.

Various explanations have been given of this phenomenon occurring at the same time as an attack of scarlatina or typhus. With regard to the former affection, Prof. Henoch holds the view that the blindness is owing to a temporary œdema of the intracranial portion of the optic nerve, or rather to an œdema of that portion of the brain which exists between the corpora quadrigemina and seat of vision. From the

phenomena observed in a case of basilar meningitis in its last stage, Prof. Henoch has been led to accept the possibility of a sudden absorption of cerebral œdema. In this case it happened that the patient, who was a child, suddenly woke up from a deep sleep, and completely regained his mental faculties, to fall again, after a short time, into another repose, and finally to succumb. Prof. Henoch explains this remarkable phenomenon by supposing that the œdema of the cerebral substance which had been developed in the last stage of basilar meningitis, and had led to anæmia of the brain, suddenly underwent absorption, in consequence of which the capillaries of the cerebral substance are again filled with blood, and intelligence restored. Transitory blindness occurring during typhus is attributed by Prof. Henoch to impairment of innervation.

Art. 7.—*On the Treatment of Abdominal Typhus by Cold Water, and by Quinine in Large Doses.*

By Professor Mosler of Berlin.

(*L'Union Médicale*, No. 90, 1868.)

Before undertaking the treatment of abdominal typhus by cold water, it is very important to obtain an exact account of the temperature of the body. The long practice and great experience of Wünderlich have given superabundant proofs of this fact. The following is the manner of applying the cold-water treatment. The patient is placed as far as the neck in a water-bath at a temperature of 14 degrees Reaumur, or of 1 or 2 degrees lower than this. When the temperature of the water is raised by the heat of the body, it is important to restore it to its original state, that is, to 14 degrees. During the bath, cold water should be poured over the head of the patient; this douche should not be warmer than the water in the bath, but sometimes even a little colder. This plan of treatment is to be carried out whenever the thermometer placed in the patient's axilla marks 39·5° centigrade.

The duration of the bath must be regulated according to the nature of the sensations of the patient, and should be suspended whenever complaints are made of intense cold. The ordinary duration is from ten to thirty minutes: the patient is then to be dried with great care and placed in a well-warmed bed. It is a good plan to administer to the patient after the bath some strong red wine. Under the influence of this beverage, the temperature of the body is not elevated, but lowered from one to several degrees. Dr. Hornsberg has often observed a lowering of 4 degrees without any detriment to the patient.

Professor Mosler has had recourse to cold baths, not only in the wards of his hospital, but also in private practice, and he has obtained by this method a number of brilliant successes. He combines with the cold bath the administration of quinine in large doses: this medicinal agent assists the febrifuge action of the cold water, when the latter plan of treatment has not succeeded alone. Sulphate of quinine, it is true, has by itself considerable febrifuge properties, but without the

action of the cold water it does not produce so satisfactory a cure as might be desired.

The following case is reported:—

A medical student, in about the middle of December, paid frequent visits to a friend who was laid down with abdominal typhus. After eight days he was affected with slight malaise, to which he paid very little attention; but he became worse and worse, and at the end of the month was obliged to take to his bed. On the 31st of December, nine days after the commencement of his illness, this young man presented all the symptoms of very severe typhoid fever. As there was elevation of the temperature which reached in the evening to 41° C., three or four cold douches were administered; by each douche the temperature was lowered by 2 or 3 degrees; quinine in small doses was also administered. On the fourteenth day of the illness profuse epistaxis came on; on the twentieth day there were serious chest complications, and the temperature of the body was raised to such a degree that a rapid and fatal termination was feared. Ice was then applied to the head; and twice in the day the patient was placed into a bath with the water at 18° R.: quinine was administered night and morning in doses which were increased from one and a half to three grammes: during the day the patient drank an infusion of ipecacuanha mixed with sulphuric acid. This treatment was continued for nine days. The fever immediately increased whenever the quinine had been suspended for a day, the temperature of the body was raised, and there was such prostration of strength that soup had to be given during the day. In the course of eleven days the patient took fifteen grammes of sulphate of quinine; on January 23rd the dose was lowered on account of troublesome vomiting, but considerable effects had been produced as the temperature had descended to 38° C. The patient quickly became convalescent, and on February 18th was enabled to leave his bed for an hour.

The following case of exanthemic typhus is not less interesting.

On the 21st of February, Wilhelm W——, aged twenty-two years, was admitted into the hospital. He had been ill for two days, and complained of general pains. It was made out that he had a very large spleen. On the following day ice was applied to the head, and the cold douche was given twice in the twenty-four hours; sulphate of quinine was administered every evening in doses of one gramme, which were afterwards raised to two grammes; profuse epistaxis occurred early, and the body was covered by numerous petechiæ. The following represents the temperature of the body during four days:—

	Morning Temperature.	Evening Temperature.
February 22	39° 4 C.	39° 8 C.
„ 23	39 4	40 2
„ 24	39 7	40 3
„ 25	39 8	40 3

The fever was so violent that the cold douches when given for eight or ten minutes did not reduce the temperature by more than 1°·5 to 1°·8 C. On February 27th he had several attacks of restlessness and syncope. A large quantity of good red wine was then associated with

the cold baths and quinine, although the temperature on the previous evening had been 40° C. After a bath at 20° R., which was continued for fifteen minutes, the temperature fell to 36°·9 C.; at seven on the same evening it was 38°·8 C. Two grammes of sulphate of quinine and some red wine were then administered to the patient. This treatment was followed up to the fourteenth day of the illness, when the temperature was not higher than 37.°5 C.; the patient then became convalescent, and progressed regularly though slowly.

These two cases demonstrate the utility of sulphate of quinine in high doses in the treatment of typhoid fever, and of the benefits to be derived from giving strong red wine in instances of syncope from general debility. Professor Mosler declares that he has obtained by the above described means a marked diminution in mortality among individuals attacked with severe typhus.

Art. 8.—*Relation of Cancer and Tubercle.*

By E. Holden, M.D., Medical Adviser of Mutual Benefit Life Insurance Company, Newark, N. J.

(*American Journal of the Medical Sciences*, October.)

The following facts (Dr. Holden writes) show most decidedly that cancer and tubercle are in no manner akin, much less identical.

Of *seven thousand and thirty* persons over *forty years of age*, *one thousand and thirty-two* had consumption in their own immediate families —parents, brothers, or sisters—and *two hundred and forty-seven* of these in two or more members; yet in these one thousand and thirty-two families only *eleven cases* of cancer had ever occurred, while of the whole number (7030) there had been *ninety-nine* cases of cancer in all. Eleven of them, therefore, only were in consumptive families, eighty-eight per cent. arising in families free from tubercular taint.

Persons over forty years of age have been thus taken, since the families of such may be presumed to have had time enough to develop any cancerous taint. In fact, it may be well enough to state that more than one-half of these persons were over *forty-five* years of age.

It will be observed that there is no evading the evident conclusion thus presented, and the only plausible objection to considering it final and overwhelming is one purely hypothetical, and that is, that the transmission of cancer is most frequently other than immediate, making atavism, in truth, a rule rather than, as with tubercle, the exception.

But further, of 55 deaths occurring in 821 families tainted with consumption, but *one* was occasioned by cancer, 33 by consumption. Still further, of one thousand deaths from disease of the bowels and appendages, there were thirteen from cancer, and in but one of the families of these had consumption occurred, save one having both cancer and consumption.

Further comment would (the Author adds) appear to be superfluous.

Art. 9.—*On the Action of Blood-Letting, Heat, Cold, and Irritants, in the Treatment of Disease.*

By George Johnson, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College; &c.

(*British Medical Journal*, November 7.)

The general principles which Dr. Johnson has, in this paper, endeavoured to establish are,—

1st.—That the object of blood-letting is to lessen hyperæmia of certain parts of the vascular system.

2nd.—Venesection is adapted for lessening engorgements of the venous system, which is usually a result of an impeded circulation through the lungs and left heart. When there are manifest signs of engorgement of the veins and obstruction in the lungs, a feeble arterial pulse does not contra-indicate venesection; and there is no inconsistency in combining the practice of venesection with the administration of stimulants.

3rd.—Local bleeding, by leeches or by cupping, is useful in many cases of inflammation. The bleeding acts by diverting blood through the superficial arteries from the deeper arteries which supply the inflamed parts.

4th.—Warm baths, fomentations, poultices, and dry cupping, act in an analogous way to local bleeding, but without actually removing the blood from the system.

5th.—Cold contracts the vessels to which it is immediately applied. The result of this may be a sympathetic contraction of distant and deeper vessels, or a driving in of blood to deeper parts. Cold to the surface, therefore, is an uncertain remedy in cases of internal inflammation.

6th.—The application of strong irritants, so as to inflame the skin, in the early stage of acute internal inflammations, is a distressing and often a mischievous practice.

As a general rule, in cases of inflammation, those local remedies are the most efficacious which are the most painless, and which quicken in the greatest degree the cutaneous circulation.

Art. 10.—*Notes on the Treatment of Cholera.*

By T. M. Lownds, M.D., Bombay Army.

(*British Medical Journal*, August 29.)

For the treatment of the first stage (preliminary diarrhœa), Dr. Lownds gives a draught containing fifteen or twenty minims of chloroform, with ten or fifteen minims of tincture of opium, with a drachm of spirit to render the chloroform miscible with water. During several years, when cholera was more or less prevalent, he has treated a large number of patients by this method, and can only call to mind one case where the disease progressed to collapse, and two cases where diarrhœa

went on to rice-water purging and vomiting. In the second stage (true cholera, with vomiting and purging of the characteristic rice-water evacuations), opium should be used with caution, calomel should be given freely, sinapisms applied, and thirst allayed with some fluid capable of yielding oxygen to the blood: dry heat should be applied to the body and limbs. In the third stage (collapse), oxygenated drinks and light nourishment, such as Liebig's cold soup, must be given. The fourth stage (reaction) is to be treated on general principles.

Dr. Lownds briefly states that he considers the disease to consist, pathologically, in a blood-poison, devitalising the blood to such an extent, in fatal cases, as to cause death at the lungs from the inability of the blood-corpuscles to assimilate oxygen.

Art. 11.—*On the Diagnosis of Rheumatism.*

By S. O. Habershon, M.D., Physician to Guy's Hospital.

(*British Medical Journal*, June 20.)

Whilst there are many characteristics of true rheumatic disease, few maladies (the Author says) are more easily mistaken, and there is *no* sign which is *uniformly* present. Pain is, perhaps, the most constant indication, with stiffness of one or other joint; but rheumatic pericarditis may, and often does exist, without any pain whatever. The same may be said in reference to febrile symptoms, to increase of temperature, and to changes in the urine; none of these signs are pathognomonic.

Many maladies are designated rheumatic which have no connexion with that disease.

1. *Diseases of the spine* are often said to *commence* with an attack of rheumatism; but it will generally be found that the pain in the course of the nerves or in the fibrous tissues arises from direct implication of the nerves or of their centres.

2. The same remark applies to pain produced by the pressure of *cancerous*, *aneurismal*, or other tumours. Thus cancerous disease of the lumbar glands is often mistaken for lumbago; so also the pain from aneurismal disease of the thoracic and abdominal aorta, when no pulsating tumour can be detected, is referred to rheumatism.

3. During the course of *renal disease*, abnormal irritation arises not only in the serous membranes, producing pericarditis, pleurisy, peritonitis, etc., but a similar change happens with the synovial membranes, and a form of disease is induced which simulates rheumatism.

4. In chronic poisoning by *lead*, vague pains in the fascia, as well as in the joints, have been designated "saturnine arthralgia."

5. We have already referred to *periosteal disease* as a source of fallacy in the diagnosis of rheumatism.

6. *Shingles* or *herpes zoster* may be found in the course both of the cerebral and spinal nerves; and the severe pain which precedes the eruption of the vesicles, and which also follows their disappearance, closely simulates local rheumatism.

7. A more important disease, and one which is attended with fatal issue, is *pyæmia*. It closely resembles rheumatism; for, with rigor and

febrile symptoms, there is fixed pain and swelling in the joints—first one, then another being affected, though without subsidence of those parts first attacked. But, whilst there may be some similarity in the symptoms, the prognosis is widely different. The one is generally a curable disease; the other, a fatal one.

We might also refer to the severe pains in the back which precede some of the exanthems, as small-pox; and to the general *malaise* of fever; but these could scarcely be mistaken for rheumatism. And lastly, the symptoms described as arising from acute *trichinous disease* have some resemblance to rheumatism in the pain in the limbs. Dr. Habershon has never seen an instance of a patient dying in consequence of this affection, although in numerous cases he has witnessed the trichina spiralis in the muscles after death.

Art. 12.—*The Treatment of Acute Rheumatism.*

By R. J. Butler, L.R.C.P.

(*Medical Press and Circular*, August 5.)

Mr. Butler writes in the highest terms of valerian, administered in the form of a bath, in subduing the pain and inflammation attending acute rheumatism, particularly of the arthritic form. It was first introduced to his notice by Dr. Adrien.

The bath is made simply by taking 1 lb. of valerian root, boiling it gently for about a quarter of an hour in one gallon of water, straining, and adding the strained liquid to about twenty gallons of water in an ordinary bath. The temperature should be about 98 degrees, and the time of immersion from twenty minutes to half an hour. Pains must be taken to dry the patient perfectly upon getting out of the bath. If the inflammation remain refractory in any of the joints, linseed-meal poultices should be made with a strong decoction of valerian root, and applied.

Art. 13.—*On Hæmorrhage from Waxy or Amyloid Degeneration.*

By T. Grainger Stewart, M.D., F.R.S.E., &c.

(*British and Foreign Med.-Chir. Review*, Jan., 1868.)

Dr. Stewart thinks that the following conclusions are warranted by the facts thus far observed in connexion with the subject:

1. That hæmorrhage is not a very infrequent consequence of the waxy or amyloid degeneration of vessels.

2. That, next to the spleen, the intestinal tract is the most common seat of such hæmorrhage.

3. That the hæmorrhage occurs independently of any visible ulcerative process.

4. That it probably depends upon rupture of the capillaries of the affected parts.

5. That waxy or amyloid degeneration of the liver does not of itself suffice to produce hæmorrhage from the bowels.

6. That the hæmorrhage occurs in cases in which the liver is free from waxy degeneration.

7. That the occurrence of hæmorrhage increases the danger of the patient. But

8. That sometimes it comes and goes for years without markedly depressing the vital powers.

Art. 14.—*The Pathology and Treatment of Sun-stroke.*

By George Johnson, M.D., F.R.C.P., Professor of Medicine in King's College; Physician to King's College Hospital.

(*British Medical Journal*, August 1.)

The formidable disease known by the name of *sun-stroke* or *heat-apoplexy* might (Dr. Johnson writes) be more correctly designated *heat-apnœa*. Although this affection frequently occurs from direct exposure to the sun's rays, it is also of common occurrence without such exposure. The one essential and constant condition is a very high temperature of the air. The most powerful concurring causes are,—muscular exertion and excessive fatigue; hot clothing, and especially such as tends to impede the respiratory movements; an excessive use of alcoholic liquors; and the close and impure air of hot and overcrowded rooms. The disease may be fatal in a few minutes, or the symptoms may last from one to forty-eight hours.

The rapidly fatal cases are spoken of as belonging to the *cardiac* variety. The patient falls unconscious, gasps, and dies. When the disease runs a less rapid course, it is said to be of the *cerebro-spinal* variety. There are great heat, dryness, and redness of the skin, giddiness, nausea, congestion of the eyes, and frequent desire to micturate; sometimes delirium, then drowsiness, passing into coma. The pupils are contracted; the breathing is hurried and laborious; the heart's action is tumultuous; the pulse rapid, at first distinct, but soon becoming feeble and irregular. Convulsions are of common occurrence, either early in the attack, or immediately before death. After death, however rapid may have been the course of the disease, the one constant condition is extreme, "unexampled" congestion of the lungs, with distension of the right side of the heart.

Dr. Maclean, to whose article on Sun-stroke (Reynolds's *System of Medicine*) Dr. Johnson would refer for a clear and succinct account of the facts of the disease, states that all modern pathologists are agreed that the superheating of the blood, which precedes and accompanies sun-stroke, has a depressing, and not a stimulating, effect on the nervous centres. In what way, then, does the over-heated blood exert this depressing effect on the nervous centres? Dr. Johnson believes the following to be the true physiological explanation of the phenomena.

The hot blood relaxes the muscular walls of the minute pulmonary

arteries. The pulmonary capillaries are consequently flooded with blood. This over-fulness of the capillaries interferes with the aëration of the blood. In fact, the overgorged vessels must encroach upon the pulmonary vesicles, and so diminish the air-space within the lungs; while the air itself is highly rarefied. Hence a state of more or less complete apnœa. Unaërated blood is sent to the muscular tissue of the heart, and to the brain: hence the cardiac and the cerebral symptoms. A similarly engorged state of the cutaneous capillaries, consequent upon extreme relaxation of the minute arteries, is the probable cause of the dryness of the skin. An excessively engorged state of the capillaries is as unfavourable for cutaneous secretion as it is for pulmonary respiration. The dry and inactive state of the skin and the want of surface-evaporation tend to elevate still more the temperature of the blood; and the suppressed cutaneous secretion, being diverted to the kidneys, probably alters the quality of the urine, renders it irritating to the bladder, and explains the frequent micturition.

This explanation of the phenomena is confirmed by the results of treatment. There is now a very general concurrence of opinion that the application of cold to the skin is the most successful remedy. The object to be kept in view is not merely, as it is generally stated, to cool the skin, or to excite the respiratory movements by the stimulus of the douche, but to cool the blood, and thus to restore the contractility of the minute arteries of the lungs. The condition of the pulmonary vessels in this disease is the exact opposite to their state in cholera collapse. In cholera collapse, the minute pulmonary arteries are in a state of extreme contraction; and, as a consequence, the capillaries are extremely anæmic. In heat-apnœa the pulmonary arteries are extremely relaxed; and the capillaries, consequently, are excessively engorged. In cholera collapse, external warmth in some degree, but much more rapidly and decidedly a warm injection into the veins, relaxes the arterial spasm, and restores the circulation. In heat-apnœa, on the contrary, the object is to cool down the over-heated blood, so to revive the contractile power of the minute pulmonary arteries, to relieve the capillaries from their embarrassing excess of blood, and thus to remove the state of apnœa. A clear apprehension of these physiological principles cannot fail to be of great assistance in practice.

In the treatment of heat-apnœa the following appear to be the main points which require attention. The patient should be placed in a recumbent position in the coolest possible place, with a free current of air. The clothes should be removed, and cold water applied to the whole surface; or if the symptoms be urgent, the clothes should immediately be saturated with cold water without waiting to remove them. If the respiratory movements be failing and feeble, the cold douche is a powerful excitor; but if the breathing be rapid and laborious, it is better to envelope the body in a wet sheet, and to quicken evaporation and cooling by a fan or a pair of bellows. If the patient can swallow, let him drink iced water freely. Whether he can swallow or not, iced water may from time to time be injected. The marvellous effect of hot venous injections in cholera collapse, and the urgent need for cooling the blood in heat-apnœa, suggest the expediency, in extreme cases, of injecting into the vein the same saline solution as

has so frequently been employed in cholera, only injecting it cold instead of hot.

A routine practice of venesection would be destructive; but when symptoms of excessive venous engorgement are present, a cautious venesection would be quite justifiable, and probably beneficial, on the well-known principle of lessening distension of the right side of the heart, and thus increasing its contractile power. When respiration has suddenly and quite recently ceased, artificial respiration by Dr. Silvester's method may possibly restore animation. While symptoms of apnœa continue, however great may be the apparent exhaustion, no alcoholic stimulants are to be given, for the reason that alcohol, as well as anæsthetic vapours and narcotics, impede oxidation of the nervous and other tissues, and therefore increase the risk of death from apnœa. Ammonia may be applied to the nostrils as a stimulant, and, if the patient can swallow, it may be given internally. Ammonia is a powerful diaphoretic, and the restoration of the cutaneous secretion is an important step towards recovery. When the skin becomes cool and moist, of course all cold applications are to be discontinued. To sum up then—as *hot air* and *hot blood* are the cause of this form of apnœa, so *cold air* and *cold water* are the chief means of cure; all other means are subsidiary to these.

Art. 15.—*On Sun-stroke.*

By C. Handfield Jones, M.B., F.R.C.P., Physician to St. Mary's Hospital.

(*The Lancet*, October 24.)

At a meeting of the Harveian Society, held Oct. 15th, Dr. Jones read a paper on Sun-stroke. After referring to the great frequency with which cases had occurred during the past summer, in consequence of the extraordinarily high temperature which had prevailed both in this country and in America, where during one week no less than 833 cases had been registered in New York alone, Dr. Handfield Jones drew a description of the disease as it had fallen under his own notice, and as observed by Sir Ranald Martin, Dr. Maclean, and others, dwelling especially upon the great importance and variety of the symptoms, indicating that the nervous system was primarily and generally affected: the intellectual, sensori-motor, reflectorial, and vaso-motor centres and ganglia all being more or less seriously implicated, as shown by the loss of consciousness, delirium, and coma, the convulsions, and great elevation of the body-temperature. Dr. Handfield Jones alluded to the views of some writers, that there were certain points of analogy between sunstroke and the influence of malarial poisons, and pointed out that, at least with high atmospheric temperature, the evolution of malarial poison was increased, whilst those exposed were less able to resist its action. He maintained that long-continued exposure to a high temperature had undoubtedly the effect of enfeebling the nervous power, and to this, when exaggerated, he was disposed to attribute the symptoms of the attack. In speaking of the treatment, Dr. Handfield

Jones recommended that every effort should be made to restore nervous power, and to promote the action of the heart; the former being accomplished by exposure to cold, the latter by minute doses of digitalis, strychnia, and stimulants. But he was of opinion that no routine practice could be adopted, every case presenting peculiar features, requiring a discreet application of the remedies suggested.

Art. 16.—*On the Prevention and Treatment of Sun-stroke.*

By W. C. Maclean, M.D., Professor of Military Medicine, Army Medical School, Netley.

(*The Lancet*, August 1.)

In tropical weather (Dr. Maclean writes) troops should parade for exercise only in the early morning or evening, and even then as little encumbered as possible; and in case any man should fall out, an abundant supply of water should be at hand for drinking and douching purposes.

For those who are obliged to exert themselves in the sun, cold tea is the safest, and in the long run the most refreshing beverage. Every experienced Indian sportsman will subscribe to this. It is notorious in the East, that the sportsmen who "come to grief" from the sun are those who endeavour to "support nature" with brandy-and-water and strong ale.

When walking in the sun, particularly in the hot streets, when there is little movement in the air, the use of an umbrella, with, for choice, a white cover, can hardly be thought effeminate. It is dangerous to mass a number of people in ill-ventilated dormitories, although it is probable that the formidable symptoms of what may be called barrack insolation are seldom seen under a temperature of 90° Fahr.

The best and safest mode of treating a person struck down by heat is at once to remove him to the nearest shade, to strip him, and assiduously to douche him with cold water over head, neck, and chest. By this means a powerful impression is made on the cutaneous nerves, the effect of which is to set suspended respiration in motion, at first by catches and gasps, finally in a more regular manner. If the heat of skin be, as it usually is, high, this simple operation should be done again and again. The patient should be made to drink freely of ice-cold water, if that be at hand; if vomiting results, so much the better, for it will mechanically aid in diminishing extreme congestion of the lungs, which is one of the most invariable consequences of the attack. The patient should be made to inhale ammonia, with the usual precautions, from time to time. As soon as sensibility is restored, it is well to give a purgative; moderate diarrhœa favours recovery. If sensibility be not restored by the above means, shave the head and apply a blister. In the convulsive form of the disease, chloroform may be inhaled, as advised by Dr. Barclay, but always under medical supervision.

Art. 17.—*General Emphysema from Ruptured Lung.*

By E. D. Mapother, M.D., Surg. to St. Vincent's Hospital, &c.

(*Medical Press and Circular*, April 29.)

At a meeting of the Surgical Society of Ireland, held March 27th, Dr. Mapother related the following case of emphysema from ruptured lung:—

"On the 29th of February, Eliza Farrell, aged two years, a healthy child, had a fall, her chin coming against a stool. No local injury resulted, but the child being greatly frightened, seemed to cease breathing for a moment or two, and then screamed violently. When the mother took her up she perceived a swelling above each collar-bone, which gradually spread to the surface of the chest, neck, and eyelids. When admitted into St. Vincent's Hospital, thirty-six hours after, these parts were tensely emphysematous; there was neither fractured rib nor clavicle, nor any other injury,—the skin of the chin, where it was said the blow was received, not being ecchymosed. There was no difficulty of breathing or cough. I conceived that a forcible inspiration occurred after the fall, and that the air-cells near the root of the lungs being thus distended, were burst by the sobbing and crying movements, which are expirations with the glottis closed. The air was then pumped into the posterior mediastinum, and thence towards the skin. In anticipation of pulmonary inflammation, I gave a little grey powder, and to lessen expiratory force and prevent further inflation of the areolar tissue, I put a bandage round the chest. The air gradually passed away, and on the seventh day after the accident the child was in perfect health.

"The following points seem worth discussing:—

"1st. The rupturing force has been the retarded expiration in cases of whooping-cough, foreign bodies in bronchi, a sudden cry or laugh, loud speaking (as occurred in the case of a barrister while pleading), primiparous labour, hysteria, and during the reduction of a dislocated humerus. In all such instances there is a full inspiration, and the expiratory movements are most forcible, but the exit of air is not free. Rupture of air-cells usually occurs in the difficult expirations of animals in whom the pneumogastric nerves are cut, the laryngeal muscles becoming so flaccid that the arytenoid cartilages fall together, and it is probable that in whooping-cough (which is the most frequent cause of this kind of emphysema) these nerves are functionally disordered.

"2nd. The air-cells near the root alone rupture, because elsewhere the lung is firmly enveloped in pleura and the elastic subpleural layer described by Stokes. In the bladder the serous part is far more apt to burst than the non-serous. The funnel shape of the terminations of the bronchi tends to confine the air, and the air-cells at the very end more readily give way, as those along the sides are supported by other infundibula. During violent expirations, as we see during a fit of coughing, the lungs yield most at their upper part, bulging outwards above and below the collar-bones, but this is the part of the organ least accustomed to distension in ordinary breathing. There is no compression offered by the spine, for it is fixed, nor by the cervico-thoracic septum, for, notwithstanding the expansion it gets from the anterior

scalenus, it is yielding. The right lung would probably give way more easily, as its root is higher up, and the liver firmly resists below, but more than two-thirds of the pleural ruptures in cases of pneumo-thorax have been on the left.

"3rd. Out of 38 such recorded cases which I have analysed, 34 were in children under four years. At that period the average weight of both lungs is seven ounces, whereas it is six times as much in the adult. These organs rapidly expand from their fœtal state, so that the air-cells, which are about 1-250th of an inch at birth, are soon twice that size, their walls being softer and thinner than in the adult. The upper part of the chest in children undergoes the most vigorous movements, and considering the need for abundant aëration, the respiratory force is several times more powerful in proportion to weight and height than in the adult. In the child the interlobular areolar tissue is extremely fine, and there is little fat in the posterior mediastinum, and the air easily makes its way to the subcutaneous layer, but there from the abundant fat it meets resistance, and the emphysema is rarely very extensive. For the above reasons it is easy to burst the infant lung, and insufflation is said to be an occasional mode of infanticide in France. When removed from the chest the lungs bear a much greater expanding force without rupturing, as there is not unequal resistance. Children more frequently cry violently, and are more subject to spasmodic cough, than adults, and hence again their greater proneness to this form of emphysema. Whooping-cough is the most frequent cause, and Mr. Richardson has given us an opportunity this evening of examining both a dried and a microscopic specimen of interlobular emphysema so produced. As that epidemic has been most prevalent during the past year, some of our members may have met with this complication.

"4th. General emphysema is to be explained only by a rupture of some hollow viscus, for the inflation of the areolar tissue with gases evolved by decomposition has not been proved, on reliable evidence, to extend beyond the gangrenous part. Inspector-General Mouat, in 1839, reported a case of rapid gangrene in India, in which two hours after death emphysema became general, but decomposition in that climate is ten times as fast as in this. The gases which are emitted by putrefaction are inflammable, as may be tested by puncturing the skin of a corpse which has been for many days floating in water, and if they were generated during life one might even believe in spontaneous combustion.

"While the serum which moistens the areolar tissue, or that poured out into the pleura in hydro-thorax, could only emit gases by decomposition, the blood which had them dissolved may possibly do so.

"Dr. Graves recorded a unique case of emphysema after excessive bleeding, in which the air seemed to escape from the blood owing to diminished pressure, and then to permeate the areolar tissue of the body. With this exception, I can find no instance of general emphysema in which there was not evidence of rupture of the respiratory or digestive passages, on both of which the expiratory movements would act so as to express the air of intestinal flatus.

"A case is recorded by Holmes, in which, after rectal puncture of the

bladder, flatus was diffused through the areolar tissue as far as the surface of the chest, and Haller observed general emphysema to result from meteorismus, the intestine giving way as far as the subserous coat into which the air was forced. The latter occurrence has been often observed in cattle when the paunch has been over-distended by flatulent food.

"William Hunter notes that general emphysema was frequent in the cattle plague of last century, and it occurred in half the cases of the late epidemic, more especially in young animals. It is due to the sudden and violent groaning expirations of the creature bursting the lung, the due exit of air being obstructed by the swelling of the tracheal and laryngeal membranes. In the ox the interlobular areolar tissue is very loose, hence the great effusion of lymph which results in pleuro-pneumonia, while the sub-pleural elastic layer is very strong—anatomical reasons which account for the occurrence of interlobular instead of vesicular emphysema in that animal. Mr. Ferguson lately asked me to witness a post-mortem on a horse which had died with universal emphysema, due, it was thought, to some septic condition, for the occurrence of any injury was denied. However, it was found that a rib had been broken, probably by a kick from a brutal groom.

"In the pathological part of my Student's Manual I have inserted a woodcut of a case which was recorded as one of spontaneous effusion of air, but I believe it to have been similar to the one now detailed.

"Authors talk of the secretion of air into the peritoneum, into the stomach, and into the womb. As regards the first we have no proof that air ever distends that sac, and it is more probable that the stomach becomes inflated by fermentation of food, and the womb by suction of air through the vagina. Surgical writers have appealed to the swimming bladder of fishes as a sac into which air is secreted, but they forgot that that organ always communicates at some period of life with the alimentary canal.

"Emphysema from ruptured lung has proved occasionally fatal, and in such cases the mediastinum has been found so greatly distended, and so much air effused under the pulmonary pleura, that apnœa should result.

"Lastly, as to treatment. Puncturing the skin and bandaging the chest are the surgical steps which seem advisable in cases in which respiration is impeded. William Hunter first advised puncturing the skin, having learned its efficacy in cases of cattle plague. The mediastinum and interlobular spaces must be relieved accordingly as the air fizzes through the punctures, and the free passage of air, which has been rendered less irritating by being respired, produces no ill effect upon the areolar tissue.

"A bandage round the chest is useful in lessening the expiratory force, but if there was much compression of the lung previously, it would be unendurable.

"In such cases the sac of the pleura does not contain air. Halliday records a case in which a vomica burst both into the mediastinum and left lung, immense subcutaneous emphysema resulting. The dyspnœa was so great that it was resolved to tap the chest, but the emphysema prevented the surgeon from making sure on which side the pneumo-

thorax was. The sound side was chanced on, and the patient was suffocated in a few minutes from collapse of both lungs.

"It was Hewson who first asserted that pneumo-thorax and compression of the lung must precede the escape of air into the subcutaneous areolar tissue in cases of fractured rib. Professor Porter, in his lectures in this college in 1839, advanced another theory, which, although I believe the correct one, has not attracted attention. He argued that emphysema only occurred in cases where adhesions between the pleural surfaces had kept the wound in the lung and the wound in the chest in correspondence. In rabbits or dogs with healthy lungs Hewson was never able to produce emphysema by any kind of wound. Many cases of wounds of the lung from broken rib are not attended by emphysema, because the required adhesions are not present, and such cases are not followed by great difficulty of breathing, nor invariably by death, as they would be if pneumo-thorax was a necessary part of the case.

"The question is most important, for if there be air in the pleural sac producing dyspnœa, it should be removed with a trocar and canula, a long tube and stop-cock being adapted to the latter to prevent admission of air. The external wound will be readily closed with sutures and collodion, and as wounds of the lung heal rapidly, air will not be again expressed into the pleural sac. The quantity of air the pleura will contain is surprising. Dr. John Davy removed, by tapping the right pleura of a young soldier, 225 cubic inches of gas, 92 per cent. of which was nitrogen and 8 carbonic acid, the oxygen having been removed by respiration.

"In cases of fractured rib, especially if the lung be torn, it would be very desirable to compress the injured side, and yet leave the sound side free. I think this might be done by rolling the bandage round the arm of the sound side, the limb being kept out from the ribs by large pads placed between the elbow and the ilium. The bandage might be also carried from the ribs of the injured side round the neck and shoulder and pelvis of the opposite side, which would leave the ribs free to move. The ribs would be then raised and everted by the muscles on the side which was not compressed by the bandage. Placing the patient on the injured side tends to the same end."

Art. 18.—*A Case of Pericardiac Exudation treated by Puncturing.*

By Dr. Mader.

(*Wochenblatt der k. k. Gesellschaft der Aerzte in Wien*, No. 24, 1868.)

The patient was a woman, sixty-eight years of age, in whom oppression of the chest and increasing dyspnœa had been gradually developed, without any symptoms of inflammation. At the time of her admission under the care of Dr. Mader, she was found to be weak and emaciated, and the dyspnœa was so considerable that she was unable to lie down or sleep. The veins of the neck were much distended; in the region of the heart there was extended dulness, which reached as high as the

first rib, and from two to three fingers' breadth beyond the right margin of the sternum. The beats of the heart were nowhere perceptible; the heart sounds were very weak and small, like those of the fœtus, and sounded as if the organ was at a distance from the ear; there was no rubbing sound. The pulse was small, irregular, and frequent. Nothing peculiar was found in the lungs and other organs. The affection was diagnosed as a serous exudation into the pericardium. As the remedies administered for several days proved fruitless, and the trouble of the patient increased, it was decided to remove the exudation. For this purpose an apparatus was improvised out of a glass syringe, which had been formerly used for venous injection in cholera patients, and the needle and canula of a subcutaneous injection syringe, with which the former instrument was armed, so as to act as a suction pump. The glass syringe held about one ounce of fluid. Dr. Mader made a puncture in the third intercostal space on the left side, about one inch external to the margin of the sternum; the instrument was carried somewhat deeply (quite half an inch), but no sensation was given during the puncture, and the trocar having been forced into a cavity, the piston of the syringe was now slowly drawn down, when Dr. Mader observed with delight that a clear yellow fluid flowed away. The syringe was filled and emptied twice. After about two ounces of fluid had been removed, the dull sound over the cardiac region was much diminished in extent; the canula was then withdrawn, and the parts left undisturbed. The removed fluid was now weighed and examined under the microscope; it proved to be a sero-albuminous fluid, containing a few blood corpuscles in consequence of the puncture. The patient, who had complained of very little pain during the operation, and had borne it very quietly, was now perceptibly relieved; she was able to lie down at night, and to sleep, and for some days felt herself altogether better. The cervical veins were less distended. This improvement, however, lasted but for a short time; after a few days the cardiac dulness again increased, and was associated with hydrothorax on both sides, chiefly on the right, so that the pericardiac could no longer be distinguished from the pleural dulness. The subjective troubles again increased to a great extent. In spite of the unfavourable prognosis, and merely for the sake of giving relief, tapping was again performed fourteen days after the first operation. Since, on close examination, an indistinct heart-sound could be heard on the left side, which was to be attributed with some probability to cord-like adhesions of the apex of the heart, or rather to a more superficial position of the heart at this part, the puncture was made close to the right margin of the sternum, again in the third intercostal space, and the needle carried inwards and to the left, until its point was in the pericardiac cavity. About three ounces of clear yellow fluid was pumped out, as on the previous occasion. This operation gave but slight relief, and on the following day the patient died. On post-mortem examination hydro-thorax was found on both sides; the lungs were healthy; there was extremely little fluid in the pericardium, which was almost quite empty, so that about the apex of the heart the parietal and visceral layers of the serous membrane were in close contact. On closer examination, traces of two punctures could be distinctly seen, the recent

one on the right side being naturally more distinct than the other towards the left. No signs were observed of hæmorrhage or of injury to the heart; the pericardiac pseudo-membrane was compact, hard, and studded with small nodules of tubercle.

In this case, although at the time of the second puncture there was clearly but a small quantity of fluid in the pericardium, still the heart was not injured. It is probable that no fluid would have come away after a simple puncture with a trocar, since the pericardium was but slightly distended.

That no good results were obtained, in spite of the success of the operation, can be well explained by the marasmus of the patient, by the advanced impairment of the circulation, and by probable disease of the muscular tissue of the heart.

Dr. Mader believes this to be the first case in which pericardial fluid has been removed by pumping, and thinks that this method is superior to that of simple puncture. The dangers the practitioner is fearful of when applying the suction pump to cases of pleuritic adhesions—namely, the too rapid extension of the false membrane, bleeding from and laceration of the same, and disease of the lungs as a consequence of forcible distension—are not to be feared here, since the lungs will readily follow the relieved parietal portion of the pericardium.

Art. 19.—*On Excessive Sweating.*

By Arthur Wynne Foot, M.D., F.K. & Q.C.P.

(*Dublin Quarterly Journal of Medical Science*, May.)

Among the more remarkable instances of general and excessive, that is, visible sweating, are the colliquative perspirations attending the venereal, cancerous, or phthisical crases, the drenching sweats of over-lactation, of the terminal stage of the normal ague paroxysm, the sweatings or crisis of rheumatic fever, and those occurring about the time the ovaries become effete. The exhausting effects of those obviously unnatural cutaneous discharges have, as is just and right, caused more anxious search to be made for any means of moderating or controlling them, than of explaining their etiology. It appears as if the causes of general profuse sweating might be referable to two causes (perhaps to but really one); to the circulation of a poisonous blood, and to depression of the vital powers, that is, to diminished energy of the sympathetic system. The condition of the temperature, pulse, and skin at the termination of an ague paroxysm points to a paralysed and dilated condition of the arteries; the hepatic, splenic, or thyroidal enlargements may result from excessive flow of blood to these parts from the same cause. The earlier stage of poisoning by malaria appears very different from the latter one, the cold, wrinkled, shivering surface contrasting with the hot, flushed, sweating one; but in other poisons of vegetable origin, as in opium, the earlier effects are stimulant and very different from the later ones, and the phenomena observed in the first stage correspond to those which attend experimental stimulation of

the sympathetic nerve. Cruveilhier remarks that of the three stages of a paroxysm of intermittent fever, that of sweating is the most constant. Some attacks may be without the cold stage, others without the hot stage; but it is very rarely that the sweating stage is absent: he has recognised an irregular ague by the nightly occurrence of profuse sweating amenable to quinine. There is reason to believe that the perspirations of rheumatic fever, although they may seriously compromise the comfort of the patient, and he may be sensible of but little relief from pain by them, yet serve to remove from the body much of the materies morbi which is the exciting cause of the symptoms. In phthisis profuse perspiration, although generally a symptom of very advanced disease, may be present at a period when both auscultation and percussion give only dubious information as to the condition of the lung, and in such case it will be found generally to be disseminated tubercle from which the individual is suffering. Cruveilhier records a remarkable case of this kind, which as far as physical diagnosis was concerned, remained undetermined up to the person's death, but which was marked from the very first by excessive night sweats, accompanied with rapid emaciation and profound debility. Regarding the colliquative sweating of phthisis as a consequence of vaso-motor paralysis resulting from constitutional exhaustion, it is not difficult to appreciate the value, although often but temporary, of nutritious diet, and such medicines as cod-liver oil. In support of the view that phthisical sweatings are the natural result of the depressed condition of the vascular system of the patient, are the observations that these perspirations usually come on when the person falls asleep, and more frequently during night sleep than day sleep; it has also been shown by Dr. Edward Smith that in cases of phthisis the subsidence of the rate of pulsation during the night is much greater than in health, and that the greater difference between the day and night rate in phthisis than in health is less due to the increased elevation of the pulse during the day than to the great subsidence of it through the night. The usual time for the occurrence of perspiration in typhoid fever is in the night, the skin in the day time being usually dry; and according to Traube's researches, the critical evacuations in typhus fever, and among them perspiration, are always preceded by a considerable fall in the pulse. In many other cases depression of the heart's action is a well-known cause of perspiration—for example, those attending the syncopal state which the inexperienced smoker falls into, the sweating which attends sea sickness, extreme purgation, the exhibition of tartarized antimony, and the effects of terror. The remedies which prove serviceable in the majority of cases of excessive general sweating are such as tend to remove depression of the heart's action, and act as tonics on the vaso-motor nerves. The difference in gravity of import between local and general sweatings appears to be very great, because, although a partial sweating may excite more alarm and closer attention from the greater rarity of its occurrence, yet it does not appear that it is in most cases indicative of by any means as serious nervous disturbance as are the general sweatings.

For the relief of sweatings of the hands Dr. Druitt has suggested the thorough application of the hottest water that can be borne with-

out pain to the offending parts until they are red hot, and tingling as if scalded. This treatment, the author states, sometimes appears to aggravate the affection. Hebra recommends the frequent local use of a solution containing one drachm of tannic acid mixed in six ounces of alcohol; this liquid should be rubbed into the part several times a day, and the skin must not be wiped afterwards; a little powdered asbestos is to be sprinkled on it while still wet, and with this the part is to be rubbed till it is dry. From statistics he finds that this complaint affects the young as well as the old, both males and females, rich and poor, those who are of cleanly habits and those who are dirty, persons who are in good health and those who suffer from other maladies.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 20.—*On the Diagnosis of Diseases of the Nervous System by means of the Ophthalmoscope.**

By M. E. BOUCHUT.

(*Gazette Hebdomadaire*, No. 25.)

1. The ophthalmoscope often enables us to discover at the fundus of the eye lesions of the circulation, secretion, and nutrition, which announce an organic affection of the cerebro-spinal system.

2. Optic neuritis, neuro-retinitis, choroiditis, and atrophy of the papilla, accompany most of the acute and chronic affections of the meninges of the brain and spinal cord.

3. The law of the coincidences of optic neurites with organic lesions of the nervous system is to be explained by the anatomical and physiological relations of the eye with the spinal cord and brain.

4. Whenever a violent obstacle to the cerebral circulation is produced by a lesion of the encephalon or cord, there is papillar and retinal hæmorrhage.

5. When acute or chronic phlegmasia attacks the encephalon, the inflammation may be propagated to the eye along the optic nerve.

6. Affections of the anterior trunks of the cord may, in consequence of their anastomosis with the great sympathetic at the level of the first two dorsal nerves, produce in the eye phenomena of papillar hyperæmia which will ultimately lead to atrophy of the optic nerve.

7. Optic neuritis and neuro-retinitis, when produced through acute or chronic diseases of the nervous system, are generally observed in both eyes.

8. In lesions of the encephalon or meninges, the optic neuritis is generally more noticed in the eye corresponding to the hemisphere which is more seriously affected.

9. The morbid changes of the optic nerve and retina associated

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* Paper read before the Academy of Sciences.

with nervous disturbances of sensibility, intelligence, and voluntary movement, always indicate an organic affection of the encephalon.

The following are the diseases of the nervous system in which optic neuritis and neuro-retinitis have been observed: phlebitis of the sinuses, acute and chronic meningitis, chronic encephalitis, cerebral hæmorrhage, tumours of the brain, cerebral contusion and compression, chronic hydrocephalus, abscess of the brain, acute myelitis, locomotor ataxy, *essential* muscular contraction, and certain forms of epilepsy, paralysis, or neurosis, connected with some organic lesion of the nervous substance.

Art. 21.—*Notes on the Pathology and Therapeutics of Disorders of the Nervous System, accompanied with Excess of Motility.**

By W. Strange, M.D.

(*British Medical Journal*, August 8.)

The author classed under this title chorea, hysteria, epilepsy, paralysis-agitans, mimosa, and some forms of insanity. His object was to show, by a minute examination of the special symptoms of each, as well as from the general symptoms common to the whole group, that there was a family relationship between them all, and that their pathology must be looked for in the difference in the parts of the nervous system, rather than in any essential distinction between the morbid processes in each. Excess of motility showing a diminution rather than an excess of the nervous force, the treatment in all these disorders will be substantially the same; namely, by such means as should, 1, improve the quality of the blood; and 2, by presenting material easily assimilable by the nervous tissue. He had found the most rapid cures from the administration of alcohol as food to the vesicular neurine, in frequent small doses (six to eighteen ounces daily), in chorea, hysteria, mimosa, &c., in conjunction, in some cases, with cod-liver oil, and from large doses of bromide of potassium in epilepsy.

Art. 22.—*Ergot of Rye in the Treatment of Neuralgia.*†

By E. Woakes, M.D.

(*British Medical Journal*, August 8.)

The object of this paper being to introduce the ergot of rye as a remedy in the treatment of neuralgia, a brief epitome of the writer's

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association, held in Oxford 4th, 5th, 6th, and 7th of August, 1868.

† Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

views of the pathology of this disease preceded the illustrative cases, this application of the drug being the direct corollary of his theory. Regarding shingles as more or less illustrative of all forms of neuralgia, the author referred the rash and the pain in it to the same cause; viz., effusion of liq. sanguinis from the ultimate branches of the artery in the track of which the symptoms appear. Tracing this artery to the skin in one direction, the effusion from a papillary arterial twig was seen to occasion a spot of herpes upon the cuticular surface of the papilla; tracing it in the direction of the corresponding sentient nerve, the fluid effused from the nutrient twigs (vasa nervosum) supplying it was found to occasion, by its mechanical disturbance of the sentient fibrillæ, the severe pain constituting the associated neuralgia. The cause of the effusion in such case was referred to a temporary suspension of the regulating influence exercised over the minute arteries by the sympathetic nerve-fibres distributed to them. It was this suspended function that the ergot was supposed to restore, and so to allow of the removal of the fluid from its pain-causing situation. Five cases were reported; one of severe neuralgia following shingles, one of sciatica of four months' duration, one of hemicrania, and two of ordinary tic; in all of which cure resulted in from four to six days after commencing with the ergot.

Art. 23.—*On some Forms of Visceral Neuralgia.**

By Francis E. Anstie, M.D., F.R.C.P.

(*The Lancet*, August 15.)

The author had originally intended to sketch out the whole subject of visceral neuralgia, but finding it impossible to do this effectively in a short space, now confined himself to neuralgia (1) of the heart, and (2) of the ovary and uterus.

1. Under the heading of cardiac neuralgia the author included every variety of the affection commonly known as angina pectoris. He endeavoured to show that, whatever the amount of organic change present in the heart or vessels, the essential feature of the disease, and that which constitutes its interest and its danger to life, is the element of neuralgic pain; or rather, that condition of the nervous system of which that pain is the prominent expression. So far is angina from being always, or nearly always, a rapidly fatal disease, that the author is convinced, from his own experience and from the study of recorded cases, that in the great majority of instances this affection runs a decidedly chronic course, with intermissions which completely characterize the neurotic origin of the disorder. In support of this position three series of facts were adduced. The first series included the narration of striking cases in which the anginal spasms recurred during fifteen or twenty years, and death at last took place, not from heart-spasm or heart-palsy, but from degenerative disease of the nervous

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association, held in Oxford August 4th, 5th, 6th, and 7th.

centres. The second series of facts was concerned with the evidently close relations between angina and the ordinary neuralgias (as shown by the frequent occurrence of the latter in anginal patients), and with the intimate connexion evidently existing between spasmodic asthma and angina pectoris. The third series of considerations included the arguments from hereditary taint, and these are, perhaps, the strongest of all. Not only is angina itself frequently a direct inheritance (as in the celebrated case of Dr. Arnold, whose father had died exactly as he did), but the most ordinary care in inquiring about pain by history will not fail to produce a striking effect on the physician's mind by showing the extraordinary frequency—one might almost say universality—with which anginal patients will be found to have descended from a race strongly marked by tendencies to the more severe neuroses. These positions were illustrated by cases which had come under the author's notice; and the following general conclusions were drawn:—1st. That the essence of angina is a neuralgic condition which (by reflex action on the cardiac motor nerves) may produce either cardiac palsy or cardiac spasm. 2nd. That the tendency to this neurotic condition is constitutional, and nearly always congenital. 3rd. That the various organic lesions which have from time to time been found in anginal patients acted merely as greater or lesser *provocatives* to the neurotic disorder. The author then discussed in detail the treatment of cardiac neuralgia.

2. As regards uterine and ovarian neuralgia, the author remarked, at the outset, that those affections are distinguished from other neuralgias by the frequency with which *peripheral* sources of irritation are the most important factors of the neuralgic state. Considering the great copiousness of the nervous supply to the uterus and ovaries, and the powerfully disturbing character of the functional processes which are periodically recurring in these organs, we need be at no loss to understand how this should be. The most common variety of peri-uterine neuralgia is that which attends certain kinds of difficult menstruation. It would not be correct, however, to give the name of neuralgia to the pain suffered in many cases of dysmenorrhœa, in which the suffering is apparently entirely dependent on and commensurate with the amount of obstruction to the escape of menstrual fluid, although its character somewhat resembles the neuralgic type. There is, however, a true neuralgic dysmenorrhœa the subjects of which have exaggerated sensitiveness of the pelvic organs, and are, besides this, liable to neuralgia of other parts. In the virgin condition they suffer at every period from frightful pain, and this pain is not relieved, or is only most imperfectly relieved, on the occurrence of the flux. These young women, so far from having any mechanical conformation which forebodes sterility, are usually both perfectly apt for conception and child-bearing, and are also evidently benefited by the exercise of these functions. As a contrast to a case which he had related of dysmenorrhœa from mechanical obstruction, in which marriage was sterile and the painful periods continued after it, the author related two cases in which frightful neuralgic attacks which had accompanied menstruation in the virgin state diminished after marriage, and soon entirely ceased. This favourable alteration was coincident with an improvement in the general health, and a lessening of the general tendency to neuralgic and other

nervous disturbances. The peripheral sources of irritation which give rise to uterine or ovarian neuralgia are not always situated in those organs themselves. Ascarides in the rectum, leucorrhœa of a purely functional nature and proceeding simply from the vagina, calculus of the kidney or ureter, scybalous fæces in the rectum, and even the irritation of parts far more distant, may produce pelvic neuralgia in a reflex manner. Even a carious tooth has been known to produce this effect, and its removal to effect an immediate cure. There is, however, one kind of peripheral irritation locally connected with the uterus itself, which is probably one of the most frequent of all exciting causes of uterine and ovarian neuralgia—namely, displacement and flexions of the womb. It has been recently stated by Dr. Graily Hewitt—and the opinion of that high authority was fully confirmed by his (Dr. Anstie's) own much smaller experience—that the great majority, if not all of the cases which Gooch grouped under the title of "irritable uterus," are really examples of uterine displacement or flexion. The kind of pain which attends these cases, although more or less continuous, is liable to periodical aggravations which assume all the severity of true neuralgia, and this severity is largely commensurate with the sensitiveness of the general nervous system. The author made full reference to the treatment, especially by subcutaneous injection of sedatives.

Art. 24.—*A Cure for Headache.*

By George Kennion, M.D., F.R.C.P.

(*British Medical Journal*, June 13.)

The remedy, Dr. Kennion observes, is simple; it is the bisulphide of carbon in solution. Its mode of application is no less simple. A small quantity of the solution (about two drachms) is poured upon cotton-wool, with which a small, wide-mouthed, glass-stoppered bottle is half-filled. This, of course, absorbs the fluid; and, when the remedy has to be used, the mouth of the bottle is to be applied closely (so that none of the volatile vapour may escape) to the temple, or behind the ear, or as near as possible to the seat of pain; and so held for from three to five or six minutes. After it has been applied for a minute or two, a sensation is felt as if several leeches were biting the part; and, after the lapse of two, three, or four minutes more, the smarting and pain become rather severe, but subside almost immediately after the removal of the bottle. It is very seldom that any redness of the skin is produced. It may be reapplied, if necessary, three or four times in the day.

The class of headaches in which this remedy is chiefly useful is that which may be grouped under the wide term of "nervous." Thus neuralgic headache, periodic headache, hysterical headache, and even many kinds of dyspeptic headache, are almost invariably relieved by it; and, although the relief of a symptom is a very different affair, of course, from the removal of its cause, yet no one who has witnessed (and who of us has not seen?) the agony and distress occasioned by severe and

repeated headache, but must rejoice in having the power of affording relief in so prompt and simple a manner.

As regards the *modus operandi* of this remedy, it is difficult, perhaps, to form a certain opinion; but Dr. Kennion is disposed to attribute it to the sedative effect of the vapour of the bisulphide, absorbed through the skin, and acting upon the superficial nerves of the part to which it is applied.

Art. 25.—*Treatment of Delirium Tremens.*

By Samuel Wilks, M.D., Physician to and Lecturer on the Practice of Medicine at Guy's Hospital.

(*Medical Times and Gazette*, September 19.)

As regards treatment, the most important instruction Dr. Wilkes can give is what *not* to do. Do not, he says, in the first place, regard delirium tremens as a disease due to the sudden withdrawal of an accustomed stimulus, and therefore commence the treatment with the administration of wine or spirits—you will by so doing add fuel to the fire—but look upon the attack as due to excitement acting on a previously weakened brain. Then your mode of treatment is obvious and rational. In one word, get your patient repose. Now I do not mean by this that your remedy is simply opium to procure sleep, but I use repose in a much larger sense. I have frequently seen a patient, probably a publican, sitting in a large room surrounded by a dozen friends, male and female, who are talking to him, or holding him in restraint. He is bathed in perspiration, his pulse is very quick and feeble; the Doctor says he has not slept for two or three nights, and he dare not give any more opium, as the pupils are already contracted. His fears that the man will die seem not ill-grounded, since it is impossible to suppose that any mortal man could go to sleep under such circumstances. I have seen such a patient then removed to a small room, put to bed, and go off to sleep in half an hour. Therefore I say that the most judicious treatment is required for delirium tremens, and do not go away with the notion that all you have to do is to give opium to procure sleep. I have many times seen the last sleep produced by it. And do not continually give stimulants to "keep up" the patient, for I have constantly seen the complaint strengthened by these means. I do not wish to reflect on the opinion of others, because I state strongly my impression that the disease is not to be cured off-hand by medicine. I see a great deal of this disease, and the time at which I am called in is about the third day, when, all means having been found unavailing in checking the complaint, another opinion is sought; after this time the patient usually sleeps and does well. I think then, except in very slight cases where a single dose of opium procures rest, that a certain interval must elapse before the commotion subsides; that in a bad example of the complaint the symptoms will continue without abatement for three days at least. This is my experience under all modes of treatment. I have no objection to opium, but it should be administered judiciously; if you act on the principle that sleep must be procured at all hazards and as soon as possible, you will without doubt kill many

of your patients. In the first instance you should place your patient in a small quiet room, and get rid of a number of officious friends.

As regards medicines, you must be guided by circumstances. I have often prescribed with advantage the well-known mixture of twenty drops of antimony wine and tincture of opium every four hours, keeping up the patient's strength by beef-tea. If you can give a glass of wine or beer in the form of nourishment without its producing any injurious stimulating effects, I have no objection; but, as a rule, I advocate the plan of giving none. Instead of administering antimony, you might give the laudanum, or small doses of morphia with ether or ammonia, and, at the same time, support the strength of the patient. By judicious management of this kind you will find your patient recover in three or four days, unless indeed he be extremely diseased in consequence of his former dissipations. As regards restraint, I have often heard objections made to it, but I believe it is often necessary, and its adoption is a real kindness to the patient. He may wander about his house until he drops dead from exhaustion, when a forcible restraint in bed by a sheet across the chest might procure rest for the body, and often for the brain. Remember, then, your patient wants repose; do not be content with administering opium and neglecting every measure which common sense would say was necessary to give any man a night's rest. As regards chloroform, you may quiet the patient by it for a time, but you do not in any way influence the disease. Other remedies are advocated. When digitalis was first proposed, I gave it to a man in large doses, and he having unfortunately died, I have never felt myself justified in administering it again. I have seen enough of the sedative effects of the wet sheet to fully believe the statements which have been made as to its efficacy. You strip the patient naked, roll around him a wet sheet until he looks like a mummy, then a blanket around this again. In many cases of delirious excitement, you will find that, as soon as a hot vapour surrounds the patient, he sinks into a quiet sleep.

Art. 26.—*On Hemicrania.*

By Dr. Mollendorff of Berlin.

(*Virchow's Archiv*, xli., 1868. *Schmidt's Jahrbücher*, No. 7, 1868.)

Dr. Mollendorff considers hemicrania to be a temporary paralysis of the sympathetic nerve so far as this accompanies the carotid artery, and also as an active congestion of the brain, generally on one side. This view is based upon the following facts.

Hemicrania frequently occurs before or after menstruation, which condition is probably due to a deficiency of tone in the vessels of the uterus; it often passes over from one side of the brain to the other; it comes on in the same manner as headache with drunkenness, not during the stage of excitement, but directly afterwards; it is preceded and accompanied by troublesome pulsations of the arteries of the head; it may be arrested by compressing the common carotid artery, and does not return so long as the compression is continued; it is increased, on the other hand, by compressing the carotid artery on the unaffected

side. In hemicrania the ophthalmoscope reveals marked congestion within the eyes on the painful side.

During this abnormal state of the circulation in one half of the brain, there is a deficiency of blood in the rest of the body. Hence the small contracted pulse in the extremities, which contrasts forcibly with that of the carotid and the arteries of the face; the hands and feet are icy cold, the secretion of sweat is diminished, that of saliva and urine increased. The heart's movements are slow; nausea and vomiting are often present.

This complication of symptoms is very analogous to that following section of the cervical ganglion of the sympathetic. One part of these symptoms is due directly to arterial distension; another to the pressure of the swollen brain upon the base and side of the cranium. Those nerves which leave the cranium under the tentorium cerebelli fail to present any signs of compression. In course of time there is plethora of the liver and intestines.

The active congestion of the brain is, as has been already mentioned, secondary, and the result and sign of relaxation of the vessels; its unilateral attacks may be explained in the same manner as the frequent unilateral affections of most double organs, as the kidneys, ovaries, &c.

Hemicrania may be hereditary, and then often comes on about the sixth year in children who bear the greatest bodily resemblance to the parent previously affected.

In this affection there is probably a deficient development of the muscular tissue of the vessels, associated with impaired function of the vaso-motor nerves. For these reasons is hemicrania more intense when it co-exists with chlorosis. The affection, when it occurs in children, may be considered as idiopathic; this form commonly disappears in the climacteric period of life. When, on the other hand, hemicrania makes its first appearance after the period of involution, it is to be considered as sympathetic of some disturbance of the female generative organs, or some other part of the body, of some morbid change in the blood, as with gout, or again, of some abnormal psychical changes.

Idiopathic hemicrania almost always disappears spontaneously in advanced life; the cessation of typical discharges from the uterus, breast, &c., and the increasing rigidity of the arteries, are so many natural means of compensation. Art supplies but temporary means of relief which excite the vaso-motor nerves; such as coffee, conium, strychnine, quinine, arsenic, the ætherial oils and alcohol, transient cold, &c. Attempts to increase the muscular development of the individual during youth are useful as prophylactic measures. The treatment of sympathetic hemicrania must be directed to the exciting lesions.

Art. 27.—*On Paralysis with Wasting of Muscles.*

By J. Russell Reynolds, M.D., F.R.C.P.

(*The Lancet*, July 11.)

In this paper Dr. Reynolds draws attention to the clinical history, pathology, and treatment of paralysis. With regard to treatment, he

says it is of the very highest importance that the nature of the affection should be recognised as soon as possible, and that the paralysis should be encountered vigorously.

The treatment which has been the most efficacious has been the judicious use of electricity—viz., its application, in proper form and in suitable intensity, to the affected muscles. It often happens that the recovery is complete; and this after several years' duration of the paralysis. The most efficacious application is that of the interrupted battery current; and a curious fact is commonly elicited by its continued use. You find, for example, a group of wasted, palsied muscles, inactive to faradisation, but responding readily to galvanism. You apply galvanism on several occasions, and observe that gradually some voluntary power returns, and with this a diminution of response to the agent you are employing. The same muscles were unaffected by faradisation at the first; but now—as their voluntary power returns and their contractility to the battery current diminishes—they act readily when the induced current is applied. At this period in the history of a case, Dr. Reynolds has found it desirable to change the form of electricity, and to employ faradisation, carefully avoiding the use of such power as shall cause pain to the patient. Galvanism requires most patient exhibition in cases of this kind: for many months it should be continued, provided that there be the smallest improvement in voluntary power, or in the nutrition of the limb. When, after six or eight applications of both faradic and battery electricity, there has been no appearance of electric irritability, Dr. Reynolds has seen no good result from its continued use. It is probable that, under such circumstances, the muscles are so changed in structure, or rather so thoroughly destroyed in proper texture, that nothing can restore them; and the only thing that can be done is to prevent the deformity which might arise from the unopposed action of those other antagonistic groups of muscles which yet retain their integrity.

Electricity may have its action assisted by frictions and passive movements; but Dr. Reynolds has not seen any definite result, *quoad* the paralysis or wasting, from the exhibition of drugs. Of course, if the child be out of health, you would do your best to bring it into a more favourable condition; and in one case you would give alteratives, in another iron, in a third cod-liver oil, and the like. But your main object must be to treat the muscles, and to treat them without delay.

Your *prognosis*, in a case of infantile paralysis, is bad when the loss of voluntary power is absolute, when the wasting is extreme, and when, after three or four applications of electricity, you can detect no trace of contractility in the muscles. It is bad under such circumstances whether the disease be of old standing or of comparatively recent development. On the other hand, if some slight voluntary power remain, or even if, when it be lost altogether, you still find in the wasted limb some flickering contraction as you apply the battery current, you may confidently expect a cure or a notable improvement, although the wasting and the paralysis may be highly marked, and although they may have existed for many years, provided that you will persevere steadily in directing the course of treatment here described.

Art. 28.—*On the Treatment of Epilepsy.*

By David Nelson, M.D. Edin., Professor of the Principles and Practice of Medicine in Queen's College, and formerly Physician to the Queen's Hospital, Birmingham.

(*British Medical Journal*, June 20.)

After using all the various agents in numerous cases of epilepsy, and through many years, Dr. Nelson has never found any one of them to yield so much success as the oxide or the nitrate of silver, but especially the latter, given in doses of from one to three grains once, twice, or thrice a day, on the empty stomach, according to the ability of the stomach and intestines to bear it. In some cases he has given only one dose a day, and that on the empty stomach early in the morning. Whether the nitrate acts on the whole nervous system, or through the pneumogastric nerve upon the cerebral hemispheres, or subdues any hyperæmia and hyperæsthesia of the mucous surface of the stomach and intestines, Dr. Nelson does not in this brief paper stay to inquire.

Art. 29.—*On the Physiology of Pain.**

By Professor Rolleston, F.R.S.

(*Medical Times and Gazette*, August 29.)

The main points in this paper were—1st. The drawing attention to the fact that the authority of Dubois Reymond had been erroneously adduced by Niemeyer in support of the view which would ascribe the production of pain in neuralgia to arterial dilatation as opposed to arterial contraction. 2nd. The writer adduced reasons for thinking that shock as well as vaso-motor disturbance could cause pain, as shown by Dr. Handfield Jones with reference to paralysis. 3rd. He drew attention to the value of counter-irritation, especially of the fifth nerve, as a preventive or anæsthetic agent.

Art. 30.—*On General Paralysis of the Insane.*

By Samuel Wilks, M.D., F.R.C.P.

(*Medical Times and Gazette*, August 29.)

General paralysis of the insane, Dr. Wilks writes, is a disease in which the patient finally possesses little more than vegetable life. He sits in a chair or lies in bed perfectly helpless, and the mind gone. Now, you might suppose that this disease progresses gradually, and thus there is

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* Abstract of a paper read at the annual meeting of the British Association for the Advancement of Science.

a gradual decay both of mental and physical power. Which of these begins to fail first is a disputed question amongst alienists. Inasmuch as the membranes are affected and the adjacent cortical structure, you might infer (from what has been already taught) that convulsive movements might be present, and so they are, epileptiform attacks being very frequent. As also the change is not simply a degenerative one, as seen in old age, but is a destruction due to a more active process, you might suppose that the dementia was ushered in by peculiar mental phenomena. This is so. The mental peculiarities are almost characteristic of the disease. The patient's mind is excited to the formation of the most extravagant ideas; he believes himself to be some exalted personage, to be inhabiting a palace, and to be possessed of enormous wealth. Thus it is that this disease is styled by the French "paralysie ambitieuse."

Here, then, is a chronic disease of the cerebro-spinal centres having the same relation to acute inflammation as phthisis has to pneumonia, or a chronic rheumatic arthritis to an acute synovitis, or, more appropriately, a chronic Bright's disease to an acute nephritis. The disease has a duration of about four or five years, and then terminates fatally. After death you find a marked degeneration or destruction of the most important parts of the brain, the grey substance more especially, but no portion of the whole cerebrum is excluded from the process. The membranes—that is, the visceral arachnoid and pia mater—are much thickened and closely adherent to the surface, so that on an attempt to remove them the cineritious structure is torn. In this grey substance the ganglionic cells would be found to have completely degenerated and altered in form and colour. Associated with them are amylaceous bodies and a quantity of new connective tissue which binds the whole together and hardens it. Sometimes numerous blood-vessels are seen, and small extravasations of blood; also considerable extravasations are often seen to have occurred on the surface, and organised into membranes.

In many cases, one of the most striking alterations is to be found in the blood-vessels; thus in one specimen in the museum, when a section was made, the vessels stood out like so many bristles. They could be pulled out of the brain to the length of several inches, and had undergone a most remarkable calcareous change. The patient was comparatively young, and such an alteration I have never met with in older persons with diseased cerebral vessels. This was an evident and marked change, but besides this it is said that the microscope is able to display even more distinct alterations in the vessels. Dr. Sankey has shown that the vessels become tortuous, and put on a varicose appearance from protuberances on their surface, owing to a thickening of the walls. Indeed, the disease has been regarded in a pathological point of view as a case where there was hypertrophy of the connective tissue in the small arteries and veins of the pia mater of the cortical portion of brain. At the time these observations were made, the anatomy of the blood-vessels of the brain was not so well known as it has been of late, and therefore it would be necessary to compare these diseased vessels with those which may be regarded as normal, as delineated by Professors His and Bastian. These gentlemen have shown that the blood-vessels of the brain are normally surrounded with a case, or rather they are contained

in sheaths styled perivascular canals, and which some have regarded as lymphatics. With this new light our specimens must be studied afresh. As you might suppose, the disease does not end here, but affects the brain as a whole, and at the same time the spinal cord. Several cases have been recorded where the medullary matter was so hardened by the chronic inflammatory process and the production of adventitious matter that the grey matter could be scraped off, leaving the form of the convolutions in the white matter beneath. The spinal cord is also atrophied. In a spinal cord sent to me from an asylum I found grey degeneration of the posterior columns with abundance of amylaceous bodies; but the history not being good, I thought it better not to publish it. The fact, however, remains, that as a result of the morbid process which takes place, the cineritious structure is atrophied and converted into an inert mass. The brain, as a whole, is degenerated, including the central ganglia, and also the spinal cord.

We have, then, this disease styled "dementia paralytica," or the "general paralysis of the insane;" by the French "folie paralytique," or "paralysie ambitieuse." Pathologically it would be styled "meningo-cerebritis chronica" or "peri-encephalo-meningitis." It is a case of paralysis of body and mind, commencing with a physical weakness or some alteration in the manners or character of the patient. It is a question which takes the lead, the psychical or physical derangement. Those who have recorded most cases agree that the mental aberration is the first symptom discernible. I think it is Dr. Blandford who has insisted on the mental alienation being the first and most important symptom, and that even the defect of speech does not at that time prove a necessary motor lesion, since by a strong effort of the will the stammering may be overcome. As regards the bodily symptoms, they are those of gradual progressing paralysis; there is a tottering in the gait, a want of power in articulation, and an evident paralysis of the muscles of the face. The commencing paralysis of the muscles of the face produces a vacant expression, which is at once recognised by the experienced medical man, and as soon as the patient talks his mode of articulation at once characterises the disease; he speaks thick, and clips his words like a drunken man. There is no necessary connexion between paralysis of the face and insanity, but still, in a case where the brain is approaching decay, it might be the first symptom recognisable. Thus, from the earliest ages, a madman was characterised by an altered mode of speech and by an inability to hold his saliva. In this disease there is a vacant expression, the articulation is indistinct, and the tongue is protruded with difficulty or wavers. Afterwards the paralysis extends to all parts; there is a weakness of the limbs, and the patient walks unsteadily, like a drunken man. When it is said that the paralysis begins above and then affects the body, this is often only apparent, and because a change in the muscles of the face is more easily distinguishable. Thus, in a man who was in the hospital some time ago, there was the tremor of lips and tongue, as well as hesitating speech; but the man could grasp with his hands most powerfully, and when asked to walk would step out with vigour, and said he could continue for miles. It might thus have been inferred that he had perfect control over his limbs; but I caused him to write, and the tremor of

the hand was evident, as you will see by this specimen, where every letter is formed by a dozen or twenty different strokes; and when he walked his gait was seen to be unsteady, although we had no opportunity of testing the amount of control over his limbs. If ever you go to a lunatic asylum, you may observe persons with this disease playing at cricket, and then you will perceive that, although they run and hit the ball, they do it in so awkward and grotesque a manner that it looks like a burlesque on the game. The appearance of a drunken man will give you some idea of a patient thus affected—in fact, a drunken man might be said to have an acute general paralysis of the insane. I should have mentioned also a fact which is very common in many brain-diseases—that the pupils are, as a rule, unequal in size, and both contracted more than natural. I had lately an opportunity of proving the importance of this symptom. A gentleman died, of what was evidently general paralysis, about two years after his life was insured, when of course some investigation was made as to his state of health at the time the assurance was effected. It was then known that he was suffering from general nervous debility, attributed to over-study at college, and it was also known that one pupil was larger than the other. The two facts were not associated by the medical adviser; but the proposer of the assurance was sent to an ophthalmic surgeon, who declared that there was no organic disease of the eye. His life was then accepted.

As regards the mental symptoms, these may show themselves by a mere failure of power, or inability to attend to business or the ordinary affairs of life, or are perhaps exhibited, in a more striking manner, by strange behaviour towards those with whom he associates, and by certain likes and dislikes in his own family. The tendency is towards dementia, seen in the memory failing and the mistakes which are made in the transactions of business. Then he will have delusions, and his mind becomes wholly deranged; but instead of growing melancholy, he becomes elated, or is, as the French say, "gay"—he has exalted ideas. These are not necessarily of the kind before mentioned, but, in cases I have seen, are rather extravagant ideas. The greatness of the man has been not merely exhibited by his boast of immense wealth, but everything around him appears to him on a larger scale, as a patient informed me that his house was a mile high, and that he had a hundred ribs, and that he could kill a thousand pigeons at a shot. They are often rather extravagant than ambitious ideas. I used, amongst my out-patients, to have a postman led in by his wife, as he could scarcely stand. When asked how he was, he smiled, said he was very well, was about to resume his occupation, saying he could walk for miles. Strange that the patient, not feeling ill, will deceive others. Thus, not long ago, a patient staggered into my room, accompanied by his wife, and having all the well-marked symptoms of dementia paralytica; but both of them for some time warded off my questions regarding his brain or the state of his mind, since, as they said, they had come to consult me about the sudden "bilious attacks" to which he was liable. These persons, I might say, are often subject to these so-called affections of the liver.

Causes.—It would appear that in this form of insanity there is not found the same strong hereditary disposition to it as in other forms of the disease; and this quite accords with our knowledge that it may be

set up by accidental causes. No doubt overwork, or wear and tear on the nervous system in a person of excitable temperament, might develop the disease; but at the same time it does seem capable of being produced by altogether accidental circumstances.

As regards diagnosis, we must be led by a number of circumstances before we form a conclusion. In most cases there is the general paralysis, with the peculiar mental defect before mentioned, and a certain morbid condition found after death. Take these together, they characterise a disease deserving of a special name, but it does not follow that some one symptom may not be absent, and thus we must not style every case where there is bodily and mental defect a case of "dementia paralytica," which has at the present day a very definite signification. For instance, a bodily and mental paralysis exists in mere atrophy of the brain arising from many causes—as excessive spirit-drinking or mere old age—but in the disease of which I speak the destruction of brain has come about in a peculiar way, and the symptoms are necessarily almost characteristic. There are also cases of disease commencing in the spine and subsequently creeping up to the head, and which, strictly speaking, are cases of general paralysis. Some of the most remarkable instances of this kind have been those where an injury has been received, causing in the first instance symptoms of paraplegia, and subsequently of cerebral palsy. I believe I have in my recollection some knowledge of a case which terminated with all the symptoms of the general paralysis of the insane, and which resulted from a severe injury to the spine. An alienist physician could not allow, however, that the condition was the same, for it would contradict his strict rule that the brain, or at least the mind, is first affected. The distinction is one of immense importance in a legal point of view, for, although we may meet with numerous cases which being strictly interpreted would demand the appellation general paralysis, yet it is best to withhold the term, for I believe I am right in saying that in a court of justice an expert who used this expression would necessarily imply that the patient was mentally incapable at the very first moment that any symptom of general paralysis exhibited itself.

Many years ago I had the advantage of attending a course of lectures delivered by Dr. Conolly at Hanwell, and I remember that he made the following statement, which I believe is quite correct—that general paralysis of the insane occurs mostly amongst the lower orders, and thus is seen much more frequently in public than private asylums; also that it occurs much less frequently in women, and I think he went so far as to say that he had never seen an example of the disease in a lady of the upper classes of society. I cannot but think that these facts tend to corroborate the idea that the disease is often induced by accidental causes, such as direct injuries to the head.

I believe I am right in saying that there are some in the profession who deny the broad statement that the disease is incurable, and necessarily fatal in a given period. I can venture no opinion on the subject, but there appears no *à priori* objection to the disease being recovered from in its earliest stages.

Art. 31.—*Thermometric Observations on Epidemic Cerebro-Spinal Meningitis.*

By Thomas Wrigley Grimshaw, M.D. Dub., Physician to Cork Street Fever Hospital, Dublin; Lecturer on Materia Medica in Dr. Steevens's Hospital; &c.

(*British Medical Journal*, October 24.)

From the cases and observations contained in this paper, we may, Dr. Grimshaw thinks, arrive at the following conclusions, with regard to the themometry of this disease. 1. That it has no typical range of temperature. 2. That the temperature seldom exceeds 100 deg. in mild cases; 103 deg. in rapidly fatal or moderately severe cases; or 104 in any. 3. That the degree of temperature and frequency of pulse have not that accord usually found in acute disease; although the accordance is usually much closer in favourable than unfavourable cases. 4. That variations in temperature seldom precede, but usually (when at all related to) accompany variations in other symptoms. 5. That low temperatures (95 or 96 degs.) usually indicate a severe case, or bad result. 6. That high temperatures (over 104 deg.) indicate a severe case. 7. That great and frequent variations of temperature indicate a serious and prolonged case, with a very doubtful result.

Art. 32.—*On Paraplegia.*

By Samuel Wilks, M.D., Physician to and Lecturer on the Practice of Medicine at Guy's Hospital.

(*Medical Times and Gazette*, October 24.)

When disease of the spinal cord has commenced, Dr. Wilks writes, some loss of power ensues, which is soon evidenced by the difficulty in walking, and more especially in the ascent or descent of stairs. The inability to raise the legs is seen by the patient's stumbling up a step, or even over a stone in the street. The effort which a paralysed patient makes to move will generally distinguish the weakness of the legs from any rheumatic or other affection, and in a woman from hysterical paralysis. The feet flop down, and the power of pointing them in a given position has gone. Then, again, one of the best evidences of diseased cord is shown in the paralysis of the bladder. First, the want of power in emptying the organ without much straining, and subsequently its becoming fully charged, and running over. Later in the disease there is a paralysis of the rectum. Other organs also sometimes suffer from the deficiency of nervous influence, as, for example, the digestive organs, and thus flatulence and sickness may become attendant symptoms. If the disease progresses, the patient becomes perfectly helpless and bedridden. In such a case death does not result directly from destruction of the cord, except the upper part be affected, when the chest loses its power of mobility, and life cannot hold out long; but death takes place from secondary causes. A bedsore may form, which may be sufficiently

extensive to exhaust the patient, or, what is more common, the bladder becomes inflamed, and the irritation there set up is propagated to the kidney, when a suppurative nephritis occurs, and a speedily fatal result.

The pupils of the eyes are sometimes affected in spinal disease, being influenced, it is supposed, through the sympathetic nerves in the neck. Thus we often see minutely contracted pupils, or an inequality in size, and in one patient of mine there was an amaurotic condition, which was recovered from during the cure of the paraplegia.

In all spinal affections we look to the back in order to discover if there be any disease in the vertebral column, and we generally percuss it. As regards any value to be derived from this method, Dr. Wilks thinks we must set it down as very small. We of course examine the spine, for by so doing we may discover a projection or a growth; but as for informing us of the condition of the medulla within it, percussion seldom does that. Of course, should disease exist between any of the vertebræ, any violent jar on the back would be likely to produce discomfort; but, as a rule, in slowly progressing disease of the cord, as in the majority of cases of paraplegia which we meet with, there would be no pain produced. At the same time, a sensitiveness of the spine is very common, but generally implies a simple functional hyperæsthesia; Dr. Wilks believes that if we tested the value of this method of diagnosis by the rule of averages, we should find pain mostly absent in organic diseases of the cord, and present in those persons who suffered merely from nervous excitability. But each case must be taken on its merits. Thus in an adult man, who showed no evidence of a nervous temperament, a permanent tenderness over one spot when disease was otherwise indicated would be of immense importance in the diagnosis. On the other hand, in the case of a girl who was said to have spinal affection owing to the existence of a variety of nervous symptoms, the diagnosis of a purely functional disturbance would be rather corroborated than contradicted by the presence of tenderness over the spine. Moreover, the tenderness on pressure, if indicative of local disease, is referable mostly to a change in the bone; whereas, in the majority of cases of paraplegia, the disease of the cord is quite independent of the vertebral column.

In speaking of that most remarkable affection which is sometimes known as acute ascending paralysis, Dr. Wilks says he can scarcely tell what is the nature of the change which takes place in the cord, for it propagates itself from end to end like wild-fire. In seeing such cases, he is reminded of a spark alighting on a piece of touch-paper, and the fire running through its length until the whole is quickly consumed. A patient may feel such numbness or loss of power in the feet, soon followed by utter inability to move the legs; then paralysis of the upper part of the body, including arms and chest, until in three or four days death ends the scene. Whether the change in the cord be due to some rapidly degenerative process in the fibrillæ, whether it be inflammatory, or whether the alteration be only that which may be called dynamic, has yet to be determined. Dr. Wilks relates three such cases which he has witnessed.

Art. 33.—*On Disturbances of the Visual Apparatus in Patients affected with General Paralysis.**

By M. Magnan.

(*Gazette Médicale*, No. 35, 1868.)

The apparatus of vision has from the time of the earliest researches on general paralysis, attracted the attention of physicians, and formed in all its parts the object of particular study. The phenomena that have been observed are those of disturbed motility depending upon the muscles of animal life and also those of organic life, and sometimes those of lesions of the optic nerve and retina.

The following changes have been noted :—

1. The state of the eyebrows : depression of the internal portion of the eyebrows (M. Bellod), elevation or depression of the median portion (M. Moreau), phenomena which bear a relation to the mask of a paralytic subject, produced by a shrinking of the prominent marks of the face.

2. The state of the lids, with paralysis more or less complete of the upper eyelid.

3. Deviations of the globe of the eye inwards, outwards, upwards, and downwards, constituting the different varieties of strabismus.

These disturbances of motility are in connexion with the functions of the nerves of the third, fourth, and sixth pairs.

4. Increase in the convexity of the ocular globe (M. Moreau). The prominence of the globe of the eye, and also the sinking which is sometimes observed, are two phenomena which the progress of modern anatomy and physiology has taught us to explain in a very clear manner.

In October, 1868, M. Sappey, in a communication to the Académie des Sciences, described several bundles of smooth muscular fibre which he had found in the orbit. In the following month, MM. Prevost and Jolyet showed that the forward movement of the globe of the eye produced under the influence of excitation of the superior end of the great sympathetic, after section of this nerve in the neck, presents the characters of movements produced by the muscles of organic life, and depends on contraction of the smooth fibres which form part of the orbital aponeurosis. This aponeurosis in fact, owing to the layer of smooth fibres with which it is covered, forms a fibro-muscular sheath, a kind of contractile covering, conical in form, and with a focal base directed forwards, which by contracting presses upon the posterior part of the globe and projects it forwards. On the other hand it is known that after section of the sympathetic nerve in the neck, among other phenomena, is observed retraction of the globe of the eye towards the bottom of the orbit.

5. Disturbed conditions of the pupil, which no physician of modern times fails to report in his observations, consist in dilatation, in contraction, in inequality, or even in irregularity of contour. These phe-

* Paper communicated to the Société de Biologie.

nomena, which may at once be attributed to the influence of the great sympathetic or third pair, may in certain circumstances become an important clinical sign.

6. Condition of the fundus of the eye explored by the ophthalmoscope. Isolated facts have been reported by various authors, most of which relate to atrophy of the papilla. M. Galezowski, from his numerous observations at the Salpêtrière, has pointed out that anæmia and progressive atrophy of the papilla were presented whenever the vision of patients affected with general paralysis became disturbed. This skilful ophthalmologist has subsequently described a peripapillar œdema which is met with in some cases, and presents itself in the form of a brownish circle.

M. Magnan has himself submitted these different statements to proof, and has examined every patient with general paralysis who has been under his notice; he has been enabled to assure himself that in at least two-thirds of the cases of general paralysis no morbid changes at the fundus of the eye can be found.

The modifications which M. Magnan has made out are in their order of frequency the following: a special morbid change of the vascular system, in which one may perceive along, and on both sides of each of the vessels proceeding from the centre of the papilla, a pale grey and regular band which generally extends in a uniform manner along the whole length of each vessel. This band is seen in connexion with the arteries, rarely with the veins, where it is less developed. This morbid change differs from the slightly yellow band found occasionally upon the vessels, more particularly the arteries in cases of senile dementia; this latter band is irregular, presents inequalities at the borders, and sometimes interruptions in its walls.

The aspect of the vessels in certain cases of general paralysis and senile dementia is in relation with what we know of the anatomical changes which occur in the walls of the cerebral vessels in cases of sclerosis in general paralysis, and atheroma in senile dementia.

These two forms of deposit differ from the irregular and diffused appearances presented by the contours of the vessels, the veins more particularly, in the neighbourhood of the papilla in certain cases of œdema of the retina.

When this band-like deposit about the vessels exists in paralytic patients, it is generally observed in both eyes: it may however be present in one eye only, and even visible upon only a single vessel.

The peripapillar œdema also has special characters; it is brownish in colour, and sometimes presents a kind of gelatinous reflection; the obscurity of the papilla is not generally observed, as a small free space is left between the œdema and the papillar border. The peripapillar œdema is not always continuous, and is sometimes visible along one-third or one-fourth of the circumference of the papilla.

The vessels at the region of this œdematous circle undergo a slight bending, and are sometimes slightly veiled.

Papillar anæmia and atrophy of the papilla presenting the characters so well described by M. Galezowski, are not, according to M. Magnan, very frequent lesions in cases of general paralysis.

M. Magnan has discovered in some cases a papillar congestion with a

rosy tint and slight opacity of the papilla, dilatation of the vessels, the veins particularly, and a clearer view of the small peripapillar vessels. This papillar hyperæmia is presented by paralytic subjects in the first stage of the disease; it is without doubt the preliminary step in the morbid processes which at a later period result in anæmia and atrophy.

Art. 34.—*Report of a Fatal Case of Acute Progressive Paralysis.*

By George Harley, M.D., F.R.C.P.

(*Medical Times and Gazette*, September 5.)

At a meeting of the Royal Medical and Chirurgical Society, held June 23rd, Dr. Harley related a fatal case of acute progressive paralysis from softening and disintegration of spinal cord, especially in the anterior columns; with loss of movement, without corresponding loss of sensation. This case is not only an important one, as being a marked example of a rare form of disease, but also has the additional, though melancholy, interest attached to it of having occurred in a member of the family of one of our own profession. The patient, a well-developed strongly-built youth of seventeen years of age, had been perfectly well until a month previously, when he felt a slight aching in the limbs, and stiffness of the neck, which he attributed to cold. So trifling were these symptoms that he went to his office as usual, and it was not until within four days of his death that he experienced difficulty in walking, although he dragged his legs slightly. He was still able to walk to his office, but during the course of the day, while sitting on a high office stool, he began to feel as if his legs were paralysed, and accordingly was taken home in a cab. On his arrival at home, although he could not walk upstairs, he was yet able to stand, undress himself, and go to bed, and it was not until the next day, only two before the disease proved fatal, that it was considered necessary to have medical advice. Mr. Jakins, of Osnaburgh-street, was then asked to see him, and found the pulse 66, the pupils dilated, and the tongue furred. The patient complained of no pain, but only that his legs were paralysed; also that his tongue felt tired after much speaking. His swallowing was perfect; the bowels were sluggish, but he made water naturally. He was ordered one-thirtieth of a grain of strychnia every four hours. No improvement took place on the Friday, and the strychnine was discontinued in the evening after the twelfth dose. Next morning, the day upon which the patient died, the paralytic symptoms having increased, and the pulse risen to 90, Mr. Jakins sought the co-operation of Mr. Newton, of Wimpole-street; and in the course of the same afternoon, the symptoms assuming a more serious aspect, Professor Harley was asked to join these gentlemen in consultation. On arriving at the house, at about four o'clock in the afternoon, Dr. Harley found the patient lying on his left side, with the lower extremities completely paralysed, the upper partially so; he could still move his arms, but had not strength sufficient to squeeze the hand. The patient's intelligence was perfect, and he said he felt no pain. The

spinal motor nerves were alone paralysed; the sensory appeared all right, for he felt the slightest touch throughout every part of the paralysed tract. There was great difficulty in breathing, the respiration being slow and laboured, each inspiration being made with evident effort. The pulse was 120; the tongue furred; temperature felt natural to the hand; there was no fever. The patient said he had that morning, for the first time, had difficulty in voiding fæces, but none in making water. The difficulty in breathing was gradually increasing, and the power of swallowing had been lost within a few hours; the sense of taste, however, still remained acute. A few leading questions, and one or two physiological tests, at once revealed the nature of the case, and although Dr. Harley had never before witnessed a human being dying under similar conditions, the experiments which he had witnessed on lower animals left no doubt of the cause of the symptoms nor of the prognosis. For he had often watched the course of the termination of the same series of phenomena artificially induced in animals—complete paralysis of the spinal motor nerves, with their corresponding sensory branches unaffected; the perfect intelligence, and yet the unconscious dying, as it were, by inches; therefore, notwithstanding the cheerfulness of the patient, he knew that life could not be prolonged beyond two or three hours at most. This opinion was based upon a rapid calculation he had made of the progressive march upwards of the disease since the morning. The prognosis was indeed but too soon verified, for the poor patient died exactly in the manner predicted—namely, asphyxiated, just two hours after the consultation, the intelligence remaining perfect until the end. The post-mortem was made on the following day; but Dr. Harley was unable to be present. Fortunately, however, he secured the services of Mr. Lockhart Clarke, who gives the following account of the post-mortem appearances:—

Post-mortem Examination, by Mr. Lockhart Clarke.—The pia mater of the cord was very much congested. The anterior columns, from the lower part of the eighth dorsal to the first lumbar nerves, were considerably softened; the posterior white columns being only slightly softened. Various portions of the grey substance were damaged by granular or fluid disintegration, including the anterior commissure. These lesions were greatest at the ninth and twelfth dorsal nerves. At the tenth dorsal they consisted chiefly of softening of the anterior columns at the entrance of the anterior roots. The conus medullaris below the lumbar enlargement, as well as the two upper thirds of the cord, were not much affected. The cervical enlargement was much congested, particularly the anterior columns, where a granular exudation, in some places, enveloped the roots of the nerves. At the upper third of this region there were areas of granular and fluid exudation, which continued upwards, with some increase, as high as the second cervical nerves For about the same length of the cord also, the deep portions of the posterior white columns between the horns were softened to a considerable degree, and the anterior roots of the nerves were, in some places, still enveloped in exudation from the surface of the pia mater. From the first cervical nerves upwards nothing remarkable was observed. The whole of the medulla oblongata and fourth ventricle appeared to be perfectly healthy.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 35.—*Treatment of the Asthmatic Paroxysm by the Inhalation of the Fumes of burning Nitre Paper.*

By HENRY HYDE SALTER, M.D., F.R.S.

(*On Asthma: its Pathology and Treatment.*)

The value of nitre paper in any given case is, in Dr. Salter's opinion, in proportion to the purity of the asthma in that case—the cure it effects is only complete where the asthma is of the pure spasmodic type, and free from organic complications. In three of the cases related by Dr. Salter in his work on *Asthma*, and others of which he has not preserved notes, it was of very little use when the attack was complicated with bronchitis.

Dr. Salter gives a few practical hints with regard to the making of the nitre paper. And this, he says, is not an unimportant point, for patients will find it more convenient to prepare the paper themselves, and unless it is properly made it will not produce its beneficial results. The object is to have as much deflagration of nitre and as little combustion of paper as possible. For that purpose the paper must not be very thin, or it will not take up sufficient nitre; nor very thick, or it will make the fumes too carbonaceous; but it must be moderately thick and very porous and loose in its texture, so as to imbibe a sufficiency of the solution. The strength of the solution should be saturate at the ordinary temperature. If a saturate solution is made with warm water, and the paper is very bibulous, it becomes too much impregnated with nitre—too strong a paper, and burns too fast, with a sudden explosive flame. There should be no brown smoke in its combustion, but light, clear, white fumes. Those who have a good deal of experience with this remedy, say that they find the red blotting-paper, of moderate substance, the best. Some blotting or filtering papers appear to have a good deal of wool in them; they are loose, thick, and coarse. They should be particularly avoided, as they yield, on burning, a smoke of particularly irritating and offensive kind, with a smell something like that of brown-paper smoke, only worse. The nitre-paper, when once made, should be kept in a dry place, and then will not be the worse for any amount of keeping; but if it gets damp it does not burn with sufficient freedom, and should then be dried before using.

The following is the way in which an asthmatic gentleman told Dr. Salter he has been accustomed to make a paper that answers perfectly well:—"Dissolve four ounces of saltpetre in half-a-pint of boiling water; pour the liquor into a small waiter, just wide enough to take the paper; then draw it through the liquor and dry it by the fire; cut it into pieces about four inches square, and burn one piece in the bed-room on retiring to rest at bed-time." Dr. Salter has tried this method of preparing the paper himself, and finds that it burns perfectly well and is very efficacious; but he thinks *two* such pieces are not at all too much to burn at once.

Art. 36.—*On the Influence of Locality in the Treatment of Asthma.*

By Henry Hyde Salter, M.D., F.R.S., Physician to Charing Cross Hospital.

(*On Asthma ; its Pathology and Treatment.*)

The following are the conclusions at which Dr. Salter has arrived, and which he thinks the cases cited in the chapter on the *Therapeutical Influence of Locality*, in his valuable work on *Asthma: its Pathology and Treatment*, sufficiently establish :—

1. That residence in one locality will cure, radically and permanently cure, asthma resisting all treatment in another locality.
2. That the localities that are the most beneficial to the largest number of cases, are large, populous, and smoky cities.
3. That this effect of locality depends probably on the air.
4. That the worse the air for the general health, the better, as a rule, for asthma; thus the worst parts of cities, are the best, and conversely.
5. That this is not always the case, the very reverse being sometimes so,—a city air not being tolerated, and an open pure air effecting a cure.
6. That there is no end of the apparent caprice of asthma in this respect, the most varying and opposite airs unaccountably curing.
7. That, consequently, it is impossible to predict what will be the effect of any given air, but that probably the most opposite to that in which the asthma seems worst will cure.
8. That some of these differences determining the presence or cure of asthma appear to be of the slightest possible kind, arbitrary and inscrutable.
9. That the mere conditions of locality appear to be adequate to the production of asthma in a person whose disposition to it was never before suspected, and who probably would never have had it had he not gone to such a locality.
10. That, consequently, many healthy persons, who never have had asthma, and never may, would probably be asthmatics if their life had been cast in other localities.
11. That possibly there is no case of asthma that might not be cured, if the right air could only be found.
12. That the disposition is not eradicated, merely suspended, and immediately shows itself on a recurrence to the original injurious air.
13. That change of air, as change, is prejudicial.
14. That, from the caprice of asthma, the constancy of the results in any given case is often deranged.

Art. 37.—*On Dietetic and Regiminal Treatment of Asthma.*

By Hyde Salter, M.D., F.R.S.

(*On Asthma ; its Pathology and Treatment.*)

In no direction is asthma more accessible than through the stomach. Of all forms of prophylactic treatment none, Dr. Salter writes, with

the exception of change of residence, is more successful than that which is regiminal.

The rules for the dietetic treatment of asthma, and the reasons for them, may be summed up as follows:—

1. The tendency of food to produce asthma is greatly increased by the state of sleep; therefore nothing should be taken after such a time, as digestion and absorption may be completely over—in the stomach and small intestines, and even the lacteals quite empty—before bedtime.

2. This long fast before sleep involves a long period of inanition; therefore, the asthmatic should break his fast early and heartily.

3. The quantity of food the asthmatic takes should be small; therefore it should be highly nutritious.

4. As a rule, the tendency of food to produce asthma is in direct proportion to its general indigestibility; therefore the asthmatic's diet should be of the simplest and plainest kind.

5. But there are some articles of diet that have a special tendency to produce asthma; therefore from these the asthmatic should exercise the strictest abstention.

Art. 38.—*Treatment of Diphtheria.*

By Henry Hartshorne, M.D., Professor of Hygiene in the University of Pennsylvania.

(*Essentials of the Principles and Practice of Medicine. A Handy Book for Students and Practitioners.*)

The author writes: "No specific remedy having been discovered for this disease, we must be governed in our tentative treatment of it by our idea of its nature; while concluding upon its therapeutics, finally, through experience. Nothing, it may be confessed, is very satisfactory, as yet, in the management of bad cases of it. All agree that it is not a mere local inflammation, but a systemic affection primarily; and that its type is most generally asthenic. Much depletion is therefore not to be thought of. I would never bleed from the arm in diphtheria. In simple, open cases, I have used leeches to the throat, with seeming decided advantage within the first three days; even their use, however, must be exceptional. Moderate purgation, as with citrate of magnesia, or Rochelle salt, at the very beginning, is well in the simple and croupal, though not in the malignant form.

"Chlorate of potassa is a favourite medicine with many in this disease. My best results in bad cases have attended its early and free use. An adult may take twenty grains in solution every three hours; I have given five grains every two hours to a child five or six years old.

"Tincture of chloride of iron is relied upon by some; from ten to twenty drops every three hours for an adult, with or without the chlorate of potassa. Sulphate of quinine is also given, alone, or at the same time with the above remedies, by a number of practitioners; say of quinine, for an adult, a grain every two or three hours.

"Besides these, or instead of them, for internal use, permanganate of potassa has, after some trial, the recommendation of one or two observers. A drachm of it may be dissolved in a pint and a half of water, a fluid drachm of this being taken every hour. Sulphite of soda, ten grains every two or three hours, is worthy of trial in this, as in other zymotic diseases.

"Concentrated liquid food must, as a rule, be given throughout an attack of diphtheria; milk, beef-tea, and very often wine whey or brandy or whisky punch; in small quantities at short intervals, according to the degree of prostration present.

"Local treatment is, by most physicians, regarded as very important. Experience has shown, I think, that it ought not to be violent. Ice in small pieces melted in the mouth slowly, is probably as useful as any application. Muriatic acid and honey, equal parts, applied freely with a large camel's-hair pencil; or diluted with water and used as a gargle, I believe to be serviceable. Creosote dissolved in glycerine,* lime-water; chlorinated soda dissolved in twenty parts of water; and permanganate of potassa, a drachm in a pint, make also appropriate gargles. In a young child ice is often the only local application possible without a struggle so disturbing as to make the benefit of it doubtful. Cold water compresses may be applied outside of the throat in the early stage, while there is excess of heat. Later, flannel wrung out of hot water to which an equal amount of spirits or vinegar has been added, will give more comfort.

"Inhalation of the steam of lime-water is worthy of trial in diphtheria, especially in the croupous variety; or the *atomization* of lime-water by the *nephogene* or some other apparatus constructed for the purpose.

"But, I believe the local treatment to be, after all, secondary. And especially is the effort (which I have seen practised) to remove the patches of exudation by force, as by excision or actual cauterization, to be deprecated, as likely to do harm rather than good."

Art. 39.—*Treatment of Asthma.*

By Henry Hyde Salter, M.D., F.R.S.

(*On Asthma; its Pathology and Treatment.*)

In speaking of the treatment of asthma, Dr Salter alludes to certain hygienic rules and plans of self-management, to which sufferers from asthma may with advantage subject themselves, and to certain tonic agents, whose employment, by elevating the standard of the general health and imparting to it a braced robustness, exerts a very marked efficacy in diminishing the tendency to that special nervous perturbation which manifests itself in the asthmatic paroxysm. The principal of these are:—Sustained exercise; shower-bath; tonic medicines; avoidance of cold; a rigorous regularity of life.

1. *Exercise.*—Dr. Salter has seen several cases in which prolonged

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* Creosote, 4 to 8 drops; glycerine and water, of each 2 fluid ounces.

bodily exertion has been of great benefit; indeed, some in which it has been the best remedy to which the asthmatic could resort. This treatment is, of course, rather prophylactic than curative—it must be taken in the intervals of the attacks.

2. *Shower-bath.*—Dr. Salter thinks that it is a law without an exception that nervous affections are less prone to occur in proportion to the general bodily vigour, and what, for want of a more definite term, we must call the *tone* of the nervous system. Anything, therefore, that corroborates and invigorates renders asthmatics less prone to their attacks. In this way the shock of the shower-bath, or sponge-bath, or sea-bathing, is often of great service to asthmatics. By raising the standard of the general health they also tend to prevent those humoral derangements which are often the exciting cause of asthma.

3. *Tonics.*—Of all tonics in asthma Dr. Salter thinks quinine the best; and next to quinine, iron. The tonic that he commonly orders, and from which he has seen the best effect, is a combination of iron, quinine, and a mineral acid.

4. *Avoidance of cold.*—Exposure of the external surface to cold is apt to induce asthma in two ways—immediately and directly, or remotely, through the intervention of bronchitis. Asthmatics should therefore wear flannel next their skins; they should vary the amount of their clothing in proportion to the temperature; they should immediately change wet garments, avoid cold after perspiring, and take all other precautions for precluding catarrh.

5. Lastly, there is one general rule, which, trifling as it may seem, is perhaps exceeded in importance by none, and by attending to which the asthmatic may do more to evade his attacks than by any other. It is, to establish a rigorous uniformity of life, to make one day the exact counterpart of another, and to avoid irregularities of every kind. Dr. Salter would enforce the great importance of the asthmatic's guarding himself from all possible sources of offence by tying himself down to a life of monotonous regularity.

In conclusion, Dr. Salter mentions some methods of treatment which he has been informed have been employed with advantage, but of which he can say nothing from his own personal experience.

Inhalation of powdered alum.—Dr. Salter has heard of two cases in which this treatment has been successfully employed; but he very much suspects they were rather cases of chronic bronchitis than asthma. That the local application of an astringent might do good to a congested and tumid mucous membrane is intelligible; but that the application of alum could relieve muscular spasm he cannot believe.

Inhalation of nitro-hydrochloric acid vapour.—The inhalation of nitro-hydrochloric acid diluted with aqueous vapour Dr. Salter has also heard recommended; but he should imagine that this would act in the same way, and be appropriate for the same kind of cases as the alum.

Inhalation of oxygen gas the author has tried in many instances, not only in asthma but in bronchitis and other apnœal states, but has never seen any real and substantial benefit derived from it. Another plan of treatment which has been tried extensively, and which, Dr. Salter thinks, is the same in principle as the oxygen inhalation, is the *respiration of compressed air.* At the hydropathic establishment at Ben Rhyd-

ding, in Yorkshire, and at Montpellier and Nice, this treatment has been in operation for some time, and from the accounts that the author has heard from intelligent eye-witnesses of its effects, as well as on its own merits, he should think very favourably of it, as far as the fact of its giving temporary relief goes. The patient is placed, in a sitting position, in an air-tight chamber, into which additional air is forced under gradually-increasing pressure till the required condensation is attained; at this point it is maintained for a certain time, according to the prescribed length of the *séance*, and then gradually lowered.

There is one agent against the employment of which Dr. Salter would earnestly caution his readers: it is *galvanism*—the passing galvanic shocks through the chest. He objects to it both on theoretical and practical grounds. He has known it do great harm; he has known it bring on an attack in a patient at the time free from asthma; and he has known it aggravate existing spasm; but he has never known it do any good.

Art. 40.—*The Pathology and Treatment of Acute Capillary Bronchitis.**

By J. K. Spender, M.B.

(*British Medical Journal,* August 22.)

Dr. Spender noticed, first, the distinct nosological entity of this very fatal disease. The three symptoms specially entitled to clinical study were —the abnormal pulse and breath ratio, with the intense dyspnœa; the character of the sputum, which was partly a true exudation, and partly an effusion from the bronchial veins; and the condition of so-called collapse, with the quasi-cyanosis of the skin. The diagnosis from acute tuberculosis is not always easy at the first glance. The treatment recommended was by small and very frequent doses of alcohol and sesquicarbonate of ammonia, alternating with each other; and as much fresh milk as could be taken. A warm moist atmosphere is of the highest use. Tonics are necessary during the convalescent stage. Any treatment is useless which is not begun very early.

Art. 41.—*On Croup.*

By Thomas Inman, M.D., Physician to the Liverpool Royal Infirmary.

(*The Liverpool Medical and Surgical Reports,* and *Dublin Quarterly Journal of Medical Science,* May.)

The following are the conclusions at which Dr. Inman arrives as to the treatment of this affection:—

"1.—In slight cases no medicaments are necessary; hot moist air

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

and local warmth suffice; talking and laughing are to be deprecated so long as the laryngeal muscles are irritable; fever may be subdued by the free use of oil to the skin. 2.—In more severe cases an emetic of ipecacuan will relax the mucous membrane, and thus put an end to that distressing dry stage with which we who suffer from catarrh are so familiar. 3.—To reduce the irritability of the laryngeal muscles opiates may be used, both locally and generally. 4.—We must next endeavour to remove, as far as possible, every irritant from the sensitive spot; and to effect this every breath which is inhaled should be of the temperature of the body, and moist as is the human breath. 5.—Such symptoms as thirst and feverishness may be met by any drink the patient selects; it is certain that under such circumstances a child will neither select spirits, wine, or ale. 6.—The occasional inhalation of chloroform may be adopted, if the patient when first seen is in very low condition."

Art. 42.—*A Discussion of the Mechanical Theories which have been advanced to account for the origin of Pulmonary Emphysema.*

By Philip J. Hensley, M.A., M.B.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

Mr. Hensley first considers three modes of explanation which have been adopted in accounting for the existence of emphysema. One offered by Laennec supposed that the lesion was caused by obstruction of the bronchial tubes, and by the action of the inspiratory muscles, which, being more powerful than the expiratory, would force in more air than expiration was able to eliminate, and thus the air would become imprisoned. The second explanation attributes emphysema to violent efforts in coughing and other expiratory acts, which are supposed to cause rupture of the air vesicles. A third view is that pulmonary emphysema is "a secondary mechanical lesion depending upon some condition of the respiratory apparatus which leads to partially diminished bulk of the pulmonary tissue, and consequently disturbs the balance of the air in inspiration." To all these views Mr. Hensley takes exception, and although he is not himself prepared to offer any very satisfactory explanation of the cause of emphysema, he explains some circumstances which he thinks may give rise to stretching of the lung tissue, and thus cause dilatation of the vesicles. In almost all cases emphysema is preceded by frequent attacks of bronchitis, which disease prevents the free passage of air into the bronchi; and Mr. Hensley thinks that if the bronchi leading to some parts of the lungs are impassably blocked up, the tension in inspiration will be borne unduly by neighbouring portions, and thus dilatation of some of the vesicles be established. But he regards the stretching of the lung tissue only as an accessory to the lesion, and he believes that there is in the first instance a degenerative process in the tissues as well as an inflammatory condition of the bronchial mucous membrane, and that emphysema is caused, therefore, not only by mechanical, but also by vital causes.

Art. 43.—*Treatment of Acute Pneumonia.*

By M. S. Jaccoud, Professeur Agrégé à la Faculté de Médecine de Paris, &c.

(*Leçons de Clinique Médicale faites à l'Hôpital de la Charité*, and *Medical Times and Gazette*, September 26.)

With respect to the much-vexed question of venesection Professor Jaccoud observes that bleeding can only be advantageously prescribed under one of the three following conditions:—(1) Intense dyspnœa and an elevated temperature; (2) mechanical disturbance of the pulmonary circulation, hyperæmia, and œdema; and (3) phenomena indicating congestion of the brain. Having fully discussed the above question, he next considers tartar emetic and digitalis, "two agents which are daily employed with advantage in pneumonia." With regard to the administration of tartar emetic, he observes that if the temperature does not exceed 103° F., if the pulse is only moderately rapid and strong without being hard, if there is no perceptible dyspnœa, and if there is comparatively little fever, tartar emetic is not required: if, on the other hand, the opposite conditions are present, if there is much febrile disturbance, and the patient suffers acutely, this remedy may be given with great benefit, and will often check the progress of the disease in from eighteen to twenty-four hours. On the first indication of a failure of the vital powers as indicated by the state of the pulse, &c., this mode of treatment must be suspended, and must be replaced by tonics—as, for example, quinine and perhaps a little wine. Our author lays great stress on the point that the tartar-emetic treatment should not be persisted in for a longer time than from forty-eight to sixty hours, and more than once repeats, that in deciding upon trying this mode of treatment, we must be influenced in no degree by the condition of the lung, but solely by the general state of the patient and the amount of febrile disturbance that is present. These remarks are equally applicable to digitalis, which is now largely employed in the French Hospitals in the treatment of pneumonia. "It is a febrifuge and nothing more. It lowers the pulse and the temperature more rapidly than tartar emetic, and like the latter, induces, though in a less degree, a state of nausea. With digitalis, as with tartar emetic, you diminish and sometimes suppress the most painful element of the disease—namely, the fever." The phenomenon of defervescence is one of the most characteristic traits in the thermometric history of pneumonia, to which our author attaches very great importance. "You have left your patient," he observes, "with the temperature proper to the period of the disease, the fever being at its highest point. On returning, after a lapse of twelve hours, you find that the temperature has fallen nearly 3° (1·5° C.). From that moment the heat continues to diminish, with merely a very slight evening exacerbation, and in the course of thirty-six, or at most forty-eight hours, you have the normal temperature, a cessation of fever, and in short, the pneumonia has run its course." Our author subsequently points out that three phenomena of considerable importance take place simultaneously with the occurrence of defervescence. In the first place, the coagulated fibrinous exudation in the lung begins to liquefy, and that organ begins to be again per-

meable by air. Secondly, the patient ceases to lose weight. Up to that period the fever causes an abnormal destruction of the tissues, and in a case observed by Wachsmuth more than 2 lbs. weight was lost in twenty-four hours, while in the twenty-four hours succeeding the beginning of defervescence, the loss of weight amounted to only one-fourteenth part of the loss experienced in the preceding twenty-four hours, and in the next twenty-four hours there was an augmentation of weight to the amount of about 6 oz. Thirdly, and lastly, the urine presents important modifications.

Dr. Jaccoud denounces the universal treatment of pneumonia by alcohol as "a grave error;" he frankly admits that the experiments of MM. Perrin, Laliemand, and Duruy are imperfect, since the elimination of the alcohol, which was supposed by them to be complete, is very partial, and he refers to the authors quoted in the footnote* as having established the true state of the case. Dr. Jaccoud regards the therapeutical action of alcohol as being of a complex nature, and considers that this agent acts partly and in the first place as an immediate and temporary stimulant, and partly as a highly combustible element (according to Liebig's view) which tends to limit the increased waste of tissue caused by the febrile excitement. The following cautions regarding the use of alcohol are well deserving of our best attention :—

"Even in cases in which this medicine is in all respects indicated, it must be administered in carefully regulated doses. If you give it too largely, you will induce intoxication, and that the more readily from the weak state of the patient. If you continue its administration in too large doses, or for too long a time, you may induce a special form of asphyxia, for you impregnate the organism with an extremely combustible matter, of which only a portion is eliminated, while the remainder is burnt by the oxygen in the blood. The absorption of this gas, moreover, falls below the normal limit, in consequence of the disease; aud thus there are two coincident conditions which tend to diminish the total quantity of the oxygen. The danger arises, not from the organism burning too much of the combustible material, but from the greatly increased consumption of oxygen which the combustion of our medicine necessitates. The oxygen will soon become insufficient for the due carrying on of the interstitial exchange which constitutes *la respiration à distance*, the aeration of the blood will become more and more imperfect, and asphyxia will at length result. These dangers, which have been foreseen by physiology, have been demonstrated by clinical observation."—pp. 76, 77.

The quantities of alcohol which he prescribes daily are very small as compared with Todd's mode of treatment, being from two to three ounces. His views regarding blistering are much the same as we entertain in this country. Blisters promote the absorption of the exudation as it begins to liquefy, and are of undoubted use in the case of feeble patients whose organic functions are discharged in too torpid a

* Strauch, "De Demonstratione Spiritus Vini in Corpus ingesti." (Dorpati. 1862.) E. Baudot, *Union Médicale*, 1863. Schulinus, "Untersuchungen über die Vertheilung des Weingeistes im thierischen Organismus" (*Archiv der Heilkunde*, 2, 1866).

manner; but their application should be restricted to the period of defervescence.

"If the disease is normal in its course, regular in its different stages, and moderate in so far as its symptoms are concerned, for God's sake (*pour Dieu !*) leave the case alone, and do not disturb it by your blind and untimely intervention."

Art. 44.—*On the Expectoration in Fibrinous Pneumonia.*

By Dr. Adolf Bohme.

(*Deutsche Klinik*, Nos. 22, 23, 25, 1868. *Gazette Hebdomadaire*, No. 34, 1868.)

In this article the author carefully investigates the various characters of the expectoration in fibrinous pneumonia, with regard to its chemical and anatomical constitution and its semeiological value. Dr. Böhme alludes to the chemical and histological analysis of Höfle, Leubuscher, Beale, and others; studies like Chomel, Bouillaud, and Skoda, the conditions in which the expectoration may be absent; and relying upon very complete cases, traces the modifications undergone by the expectorated material in the various periods of pneumonia. The different causes of the coloration of the expectoration are carefully studied. The following are some of the author's conclusions on the prognostic value of the differences in the coloration, consistency, and constitution of the expectorated material.

The absence of expectoration has no very important signification, although its retention in the lungs may favour extension of the inflammation. Absorption of the exudation is not rendered more difficult, since in cases of normal expectoration a great part of the expectoration remains in the lungs, and is not coughed up. Children and lunatics swallow the expectorated material, whilst patients suffering from pleuro-pneumonia endeavour to avoid the pain caused by the expectoration. The default in expectoration, however, is sometimes due to the patient's debility, as may be generally observed shortly before death. With regard to coloration, a green tint possesses a constant importance. Green or yellow expectoration, in the absence of jaundice, is a bad sign. A clearer succeeding to a darker tint indicates the commencement of resolution; contrary signs lead one to think of an extension of the inflammation. The quality of the expectoration is of great value. Its viscosity generally corresponds to the intensity of the inflammation. Serous or purulent expectoration like the prune juice, and brown expectoration of chronic pneumonia, always supplies a very doubtful prognosis. The amount of epithelium with vibratile cilia and of black pigment is unimportant. The presence of fibrinous coagula is also an almost indifferent sign. Many cases of pneumonia recover, although no fibrinous expectoration has been observed, whilst this material is often coughed up in fatal cases, and in instances of tuberculous pneumonia. When small yellowish-grey pigment exists in the expectoration (generally in cases of tuberculous pneumonia), it may be concluded that a cavity has been formed. The author, however, has sometimes seen these detritus in the stage of absorption.

Treatment seems to have a marked influence upon the consistency and coloration of expectorated material. It is modified more rapidly

according to the greater activity of the system of treatment. Thus bleeding exercises a remarkable influence; directly it has been performed the expectoration loses its viscosity with surprising rapidity, and becomes more abundant, though the fever persists. The viscosity sometimes reappears, but in the majority of cases the expectoration remains fluid. Its colour becomes clearer, and remains in this condition as long as there is no further extension of the inflammation. An extensive application of leeches acts in the same manner, but less vigorously. Digitalis produces changes in the expectoration, which is the more interesting to notice since in cardiac disease expectoration may often be observed, the rosy colour of which is altogether analogous to that of the material expectorated in cases of pneumonia.

Art. 45.—*Treatment of Pneumonia.*

By John Addington Symonds, M.D., F.R.C.S.E., Vice-President of the British Medical Association.

(*British Medical Journal*, June 13.)

Full and frequently repeated doses of bicarbonate of potass and spirit of nitric ether, with antimonial wine or ipecacuanha, in combination with poultices or blisters, are Dr. Symonds's first remedies. A serious illustration of an untimely opiate suddenly causing a fatal relapse, or rather a fatal arrest of the resolution, occurred to Dr. Symonds a few years ago, in the case of a gentleman whose pleuro-pneumonia was subsiding with free expectoration of muco-purulent matter. From coughing, or some other exertion, which probably caused a partial extension of pleurisy, he suffered an attack of pain, for which he helped himself to so heavy a dose of laudanum as to induce serious narcotism. The narcotism passed off, but the expectoration could not be recalled; and the patient died of his intolerance of pain, or, rather, of his rashness in quelling it.

Art. 46.—*Treatment of Hæmoptysis by Ergot of Rye.*

By Horace Dobell, M.D., Senior Physician to the Royal Hospital for Diseases of the Chest, &c.

(*British Medical Journal*, June 27.)

In spite of the fashionable outcry against complicated prescriptions, Dr. Dobell ventures to give the following as the most efficacious, and, as it seems to him, the most rational, combination of remedies for a case of profuse tubercular pulmonary hæmorrhage:—

℞ Ext. ergotæ liq., ʒij (to contract the vessels); tincturæ digitalis, ʒij (to steady the heart); acidi gallici, ʒj (to clot the blood); magn. sulphatis, ʒvj (to relieve congestion); acidi sulphurici diluti, ʒj (to assist the rest); infusi rosæ acidi, ad ʒviij (to make a mixture). A sixth part every three hours till hæmorrhage is arrested.

In any given case, either of the ingredients may be omitted, if the symptoms indicate that it is not required, or that it has already done its duty.

Art. 47.—*Case of Recovery from Gangrene of the Lungs.*

By Dr. Zierl.

(*Bayr. ärztt. Intell-Bl.* 7, 1868. *Schmidt's Jahrbücher*, No. 6, 1868.)

Dr. Zierl, on the evening of the 1st of June, was called to a man thirty-six years of age, both of whose fore-arms were supposed to have been fractured four weeks previously through a fall. The patient was found breathing with very great difficulty, and suffering from constant cough without expectoration, and strong fever, great debility, much thirst, and a total loss of appetite. There was dulness on percussion over the lower lobe of the left lung, and no vesicular murmur on auscultation. The patient had commenced to cough fourteen days before, and the attacks rapidly increased in severity. Both arms were confined in bandages. During the night the dyspnœa and coughing were relieved, and an expectoration of a yellowish-grey and fetid material suddenly came on. The patient went on well, although the fœtor of his breath and expectoration was very offensive to those about him; the vesicular murmur could now be heard in the lower part of the left lung. On June 21 the man was ordered to inhale the vapour of turpentine, and whilst this treatment was continued from week to week, all the symptoms of the disease were removed; the expectoration gradually lost its fetid odour, and took on first the character of pus, and subsequently that of mucus. At the end of three months the cure was complete, and the man able to do work.

Dr. Zierl feels convinced that the focus of the gangrene was an apoplectic infarction, which must have been the result of the injury received a month before.

Art. 48.—*Further Experiments on the Use of the Alkaline Hypophosphites in Consumption.*

By Richard Payne Cotton, M.D., F.R.C.P., Senior Physician to the Hospital for Consumption, Brompton.

(*Medical Times and Gazette*, November 14, 1868.)

Some time back Dr. Cotton published in detail a series of observations upon the action of the hypophosphites of lime and soda in tubercular diseases of the lungs (*Lancet*, April 25 and May 2, 1863), and came to the conclusion that these substances were nothing more than neutral salts, suited, just as many other neutral salts are, to certain cases of phthisis in which there is a complication of acid dyspepsia, and that they had not, as alleged, any claim to specific action. Finding, however, that they are still regarded by certain medical practitioners as remedies of great value, and that they are still advertised "for the prevention and cure of consumption," he considered it right to give them another trial. Of twelve hospital cases in which they were administered four improved, and the rest derived no benefit. Of the four improved cases, each one, without exception, continued to improve, and in the same

ratio, after the hypophosphite had been changed for carbonate of soda. Of the eight unimproved cases, one gradually became worse, and left the hospital without affording the opportunity for any experimental change of medicine. In four other remedies were equally unsuccessful with the hypophosphite, whilst in three there was a manifest improvement in every respect after the hypophosphite had given place to steel and quinine.

In each of these cases the hypophosphite was given in ten-grain doses, in water sweetened with a litle syrup, three times a day.

The following are the legitimate conclusions at which Dr. Cotton has arrived:—1. That the alkaline hypophosphites have no claim whatever to a specific action upon phthisis. 2. That the good they may sometimes effect is altogether due to their alkaline character, and is equally shared by the alkaline carbonates. 3. That, except in cases requiring alkaline treatment, their employment is absolutely harmful, by excluding the use of positive and appropriate tonics.

Art. 49.—*On the Nature and Treatment of Pulmonary Consumption as exemplified in Private Practice.*

By Charles J. B. Williams, M.D., F.R.S., Consulting Physician to the Hospital for Consumption at Brompton; and Charles Theodore Williams, M.B. Oxon., Assistant Physician to the same Hospital.

(*The Lancet*, August 15.)

The following is a brief general view of the treatment of consumption which Dr. C. J. B. Williams has commonly adopted:—As we have been led to conclude that consumption is essentially a disease of degeneration and decay, so it may be inferred, Dr. Williams says, that the treatment for the most part should be of a sustaining and invigorating character. Not only the most nutritious food, aided by a judicious use of stimulants and of medicinal tonics, but pure air, with such varied and moderate exercise in it as the strength will bear, and the enlivening influence of bright sunshine and agreeable scenery and cheerful society, are among the means best suited to restore the defective functions and structures of frames prone to decay.

Dr. Williams apprehends that most practitioners in this country are agreed in considering that consumption should be generally treated on a tonic and sustaining plan; and that the nourishment and strength of the system should be supported by varied tonics and cod-liver oil, as well as by the most nutritive articles of diet. But when the disease is ushered in with symptoms of acute bronchitis or pneumonia, with its attendant fever and scanty disordered secretions, it is obvious that such treatment is wholly unsuited for the occasion; and that remedies of the mild antiphlogistic kind, such as salines, with or without antimony, blisters, and cataplasms, and sometimes even moderate leeching or cupping, will give most relief, and will prepare the patient for the safe administration of the sustaining class of remedies. In former years in

this country (as still in many places abroad) the antiphlogistic and starving plan was carried on too long and too far; but it appears to Dr. Williams that there is now a tendency too much to the opposite extreme, so that consumption is treated too exclusively with tonics, stimulants, and full diet. He quite admits that this is the better extreme of the two; and it may fairly be stated that the sooner, and the more constantly, patients can be treated on this plan, the better. But in case of active inflammation, continued heat of skin, hard racking cough (dry, or with viscid and tinged expectoration), much pain or soreness of the chest or side, it answers well to withhold or withdraw the stronger stimulants and tonics, and for a time—it may be a few days only—to substitute cooling and soothing remedies, with moist epithems or counter-irritants on the chest, and, more rarely, local depletion. But this discipline, which is exceptional, should as soon as possible be replaced by what may be called the regular treatment by cod-liver oil and tonics, and a more generous diet. The transition need not be abrupt. So far as regards cod-liver oil, and the mild acid tonics, the change may be made long before the inflammatory complication has subsided. A dose of these may be given after the morning and perhaps after the midday meal, whilst still the saline is taken in the evening and night, and whilst blisters or other counter-irritants are in full operation.

So soon as the nocturnal heat of skin subsides, and the cough becomes less urgent and the urine more free, the salines may be replaced by a mere cough linctus, if that be needed; the counter-irritation moderated, and the tonic, given with the oil, gradually strengthened by the addition of small doses of salicine, quinine, or iron. These two last tonics are of great use where they are well borne, as their influence in strengthening the muscular system and in improving the condition of the blood is greater than that of any other drug; but their use requires much discretion and watchfulness, for they often increase the lingering or intercurrent inflammations, with their attendant pain, constriction, cough, and viscid expectoration, and not unfrequently they derange the functions of the stomach and bowels. It therefore often happens, where the patient cannot be seen frequently, that it is safer to be content with a milder tonic—such as calumba, cascarilla, or chiretta—which may be continued for weeks and months together in conjunction with the oil, than to give those that are more powerful, but which by occasional disturbances may prevent the continuance of the remedy.

But the great remedy, more essential and more effectual than any other, is the cod-liver oil; and we may well bestow a little consideration on the mode of using it to the best advantage.

It is now pretty generally admitted by the profession that the pure, pale oil, simply extracted from the fresh, healthy livers of the fish, is that most suitable for the majority of patients, as being less unpalatable and at least as efficacious as the impure kinds.

The following is a brief summary of Dr. Williams's opinions and experience on the mode of operation of the oil, and on the best methods of administering it:—

Cod-liver oil, when taken into the system in sufficient quantities, and for a sufficient length of time, acts as a nutrient, not only adding to the fat of the body, but also promoting the healthy growth of other tissues,

and in some way, as an alterative, counteracting the morbid tendency to the proliferation of the decaying cells of pus, tubercle, and kindred cacoplastic and aplastic matters.

That its efficacy depends much on its being absorbed freely into the blood, and through the circulation pervading all parts of the body, and thus reaching to the very seat of morbid deposits and formations.

That the more fluid part of cod-liver oil surpasses all other oils and fats in the facility with which it forms emulsions, which are tolerated by the stomach and readily absorbed into the blood, without causing the nausea and bilious derangement that commonly result from an excess of fat food. This peculiarity may depend on the biliary and other matters contained in the oil, which in other instances of disease is found to act beneficially on the liver and other secreting organs.

That the best time for the administration of the oil is immediately after, or, to those who prefer it, at or before, a solid meal, with the constituents of which the oil becomes so intimately blended that it forms a part of the chymous mass, and is less likely to rise by eructation than when the oil is taken into an empty stomach. From this chymous mass, the oil being absorbed through the lacteals with the chyle, is less apt to disorder the liver than if absorbed through the veins of an empty stomach.

That as the use of the oil should be continued for a long time—perhaps for months, or even years—it is of great importance to conciliate both the palate and the stomach by giving it in a vehicle which may agreeably disguise its flavour and strengthen the stomach to bear it. For this purpose an aromatic bitter, such as the compound infusion of orange-peel, acidulated with a mineral acid, both to help to cover the taste of the oil and also to suit the stomach, which should be duly supplied with acid during digestion, generally answers well. Syrup may be added according to the taste of the patient; or, still better, some bitter tincture, such as calumba, cascarilla, or quinine, in every case in which it is desirable to improve appetite and tone. In cases of peculiar weakness of stomach, with tendency to retching or nausea, strychnia, in a dose of from $\frac{1}{32}$ to $\frac{1}{24}$ of a grain, proves a most valuable adjunct to the vehicle. By its means Dr. Williams frequently overcomes the fastidiousness of stomach arising from debility, hysteria, or indulgence in alcoholic liquors. Salicine is another efficacious alternative of the same kind. Either of these, although a powerful tonic, has none of the heating properties of quinine or iron. When the strong bitter taste is objected to, a pill containing extract of hop or chamomile, or salicine, or quinine, may be taken after or before the oil and its vehicle.

The bulk of the whole dose of oil and vehicle should be small, so that it may be swallowed at a single draught; therefore the vehicle should not exceed a tablespoonful, with, at first, a teaspoonful of oil, to be gradually increased to a tablespoonful. The dose of oil should rarely exceed a tablespoonful twice or thrice daily; when a larger amount is taken at a time, generally either it deranges the stomach or liver, or some of it passes unabsorbed by the bowels.

The acid may be varied according to circumstances. The nitric generally suits best in inflammatory cases, and those attended with much lithic deposit in the urine; but its tendency to injure the teeth is

an objection to its long continuance. The sulphuric is more eligible where there is liability to hæmoptysis, profuse sweats, or diarrhœa. But in most cases, and for long continuance, Dr. Williams has found reason to prefer the diluted phosphoric acid, which may be termed the most physiological of the acids, tending to derange the chemistry of the body less than the others.

With some individuals the oil agrees well, and so much improves their digestive powers, that they require few or no restrictions in diet; but this is not the case with the majority. The richness of the oil does prove more or less a trial, sooner or later, to most persons; and to diminish this trial as much as possible, it obviously becomes proper to omit or reduce all other rich and greasy articles of food. All pastry, fat meat, rich stuffing, and the like, should be avoided; and great moderation observed in the use of butter, cream, and very sweet things. Even new milk in any quantity is not generally borne well during a course of oil; and many find malt liquor too heavy, increasing the tendency to bilious attacks. A plain nutritious diet of bread, fresh meat, poultry, game, with a fair proportion of vegetables, and a little fruit, and only a moderate quantity of liquid at the earlier meals, commonly agrees best, and facilitates the continued exhibition of the oil in doses sufficient to produce its salutary influence in the system.

In case of a bilious attack coming on, indicated by nausea, headache, furred tongue, offensive eructations, high-coloured urine, and sometimes pain and tenderness of the right hypochondrium, it is necessary to suspend the oil, lighten the diet of the patient, and give blue pill or calomel with an aperient on alternate nights, and an effervescing saline two or three times during the day. A few days of this treatment will generally set the stomach and liver to rights, and the oil may be resumed, beginning with small doses as at first. In all cases during the use of the oil the bowels should be kept regular in action; and if this cannot be done by regularity of habit and diet, it should be effected by the use of a mild daily pill of rhubarb or aloes.

Such are the directions which have proved most effectual in the administration of a remedy which may truly be said to have so much altered the prospects of the consumptive as to give hope of cure in not a few, and of much prolonging life in by far the greater number. But to induce patients to follow these directions, and to overcome their aversion to a remedy which the prejudice of some represents as disgusting, and the experience of many may find trying to continue for so long,—the practitioner will often find it necessary to use all his powers of argument and persuasion. The great plurality of patients are amenable to reason, and are willing to follow any advice that is given with *confidence* and *clearness*. To those who demur or rebel it is generally expedient to tell the plain truth—that they have a serious disease, pretty sure to increase, and sooner or later to destroy life, if left to itself; *but here is the remedy*—the only one worthy of the name, which if carefully and faithfully used may arrest and cure the disease, and is pretty sure to retard it and prolong life more than other known means. The proportion of recusants either from waywardness of temper, fastidiousness of taste, or from intolerance of stomach, altogether does not exceed five per cent.

Although Dr. Williams's long experience assigns to cod-liver oil a place far above all other remedies in the treatment of pulmonary consumption and its allied maladies, it has taught him to believe also in the limited efficacy of certain other agents, and it would not be fair to pass these over in this brief summary of treatment.

He sometimes uses a combination of iodide of potassium and nitric acid with a vegetable tonic in the rare cases in which cod-liver oil disagrees or cannot be taken, and he thinks that it is improved by the addition of a drachm or two of pure glycerine to each dose. Glycerine by itself is of little use, but it is valuable as a lubricant, and to sheathe the acrimony of mineral acids and other pungent medicines.

The hypophosphites of soda and lime, so strongly recommended by Dr. Churchill, of Paris, have in Dr. Williams's hands proved decidedly beneficial in certain cases. They have been tried by Drs. Quain and Cotton, at the Brompton Hospital, with only negative results; but having met with several patients who distinctly ascribed their improvement to Dr. Churchill's treatment, he has thought it right to try them himself, both as a substitute for the oil and in addition to it. In the former way the results have not been generally satisfactory: the hypophosphite does not disagree, but there is no marked improvement as under the oil; and when they have been doing well under the oil, the patients generally lose flesh and strength when the hypophosphite is substituted for it. On the other hand, it has happened in several cases that a patient has long been taking the oil, and, after having derived great benefit from it, halts in his improvement, or even loses ground, and then the addition of the hypophosphite has been followed by a marked change for the better; flesh and strength have been gained, and the chest symptoms have been more or less improved. In these cases Dr. Williams has merely added four or five grains of the hypophosphite to the vehicle in which the oil is given, always selecting the phosphoric as the acid, and generally substituting glycerine for the usual syrup. Such precautions are necessary, because the hypophosphites are very unstable in composition; the addition of nitric acid, or mere exposure of the solution to the air (if not guarded with glycerine or a good deal of syrup), being sufficient to convert them into inert phosphates. In Dr. Williams's mixture of the hypophosphite with phosphoric acid, he presumes the hypophosphorous acid is set free, and is the active agent in the compound. How it acts is quite uncertain. He cannot say that he agrees with Dr. Churchill's views on the subject, even if he understands them. These hypophosphites seem to increase the failing powers of respiration and circulation. Can this be by increasing the affinity of the blood for oxygen, so that it can attract it and maintain the blood-changes even under the increased difficulties and obstructions produced by disease?

Perhaps the efficacy of the sulphurous acid—Dr. Dewar's remedy for consumption—may depend on an influence not altogether unlike that of the hypophosphites. Dr. Williams's experience of the use of the spray of sulphurous acid is limited in phthisis, and as far as it has gone has not been very encouraging. But he has found the spray a most useful and agreeable remedy in various affections of the throat, whether diphtheritic or aphthous; and it has proved cleansing and soothing in some

cases of foul ulceration of the throat, affecting both larynx and fauces, generally syphilitic in origin, and sometimes ending in pulmonary consumption.

Dr. Williams has generally found the use of inhaling instruments fatiguing and unnecessary. A quart jug of hot water, with a napkin from over the nose down to and around the jug to confine the steam, is all that is needed. To the hot water is added the drug to be inhaled; and creosote or carbolic acid, iodine, chloroform, oil of turpentine, and juice or extract of hemlock, are the articles which he has found most beneficial. A few drops of one, or of several of these combined, being put into the hot water, the inhalation is practised through both mouth and nostrils without restraint or difficulty, and may be continued for five or ten minutes every night, and, if need be, repeated once or twice in the day. Although the chief operation of this medicated vapour is on the guttural and bronchial surface, yet a portion penetrates into the lungs, and is absorbed into the system; for iodine and oil of turpentine can be detected in the urine within a few minutes of the inhalation being made. Still, although proving very serviceable in certain cases, Dr. Williams cannot rank inhalation higher than as a subordinate remedy in the treatment of consumption. He may add, that the practice of painting the chest with tincture of iodine every night, as a gentle counter-irritant, is not without a certain influence in the way of inhalation; for a portion of the iodine evaporates, and slightly impregnates the air around the patient, and this atmosphere of iodine may not be without its influence for good.

The sulphurous waters of the Pyrenees are highly recommended by the French physicians in the treatment of consumption; and a few of his patients, after wintering at Pau, have found some benefit from the waters of Eaux Bonnes and Cauterets during the summer months. But in other cases, and these the greater number, more harm than good has resulted from their use. More or less excitement of the circulation and respiration is generally induced by the sulphur waters, and instead of inducing expectoration and subsequent relief to the cough and breathing, the critical improvement has not taken place, and the patients have come away weaker and more oppressed than they went. With all respect for our brethren across the Channel, so far as regards their cleverness in diagnosis, Dr. Williams does not hesitate to say that they are far behind British practitioners in their skill and success in the treatment of disease in general, and of diseases of the chest in particular. The same remark applies pretty much to the German doctors and their water cures, whey cures, and grape cures. Except in a few instances with the waters of Ems, Dr. Williams has hardly known any British pulmonary invalids derive any permanent benefit from these modes of treatment; but he quite admits that they are sometimes useful when the pulmonary disease is complicated with gout, or decided disorder of the liver and digestive organs.

Of far more importance in the treatment of consumption is change of air and climate. It is of the greatest consequence to the phthisical invalid that he should breathe as pure an air as possible, and that the influence of this pure air on the blood and on the body should be increased by such gentle and varied exercise in it as his strength

and the condition of his organs will permit. This is the great object of our sending him to a warm climate in winter, and to a high and dry locality in the summer, that he may be as much as possible in the *open air*, with its exhilarating and vivifying accessories of light, purity, and freshness, without the chilling operation of cold and wet in the winter, and the enervating and exhausting influence of oppressive heat in the summer. In conclusion Dr. Williams trusts that he has proved, that powerless as medicine is in the overwhelming and rapid types of pulmonary consumption, it has yet considerable influence over the milder forms; and *that under careful treatment life may be prolonged for many years in comfort and usefulness, and in not very few cases the disease is so permanently arrested that it may be called* CURED.

ART. 50.—*Treatment of Phthisis.*

By JOHN ADDINGTON SYMONDS, M.D., F.R.S.E., Vice-President of the British Medical Association.

(*British Medical Journal*, June 13.)

The remedies Dr. Symonds has most relied upon next to cod-liver oil are these: 1, permanent counter-irritation; 2, a morning dose of two or three grains of quinine, often united with iron; 3, a night sedative for the cough; and 4, a nutritious and even generous diet, in which he is always anxious to include a large allowance of milk and eggs. In regard to the first of these, he prefers to every other form a small open blister below the clavicle. The inconvenience is very slight; and the small extent of the surface involved leaves plenty of room for sinapisms, or iodine, or turpentine, which may be required for meeting intercurrent attacks of partial pleurisy or bronchitis or pneumonia. Iodine is a very valuable application, except where there is a tendency to subacute irritation. The strong tincture is the most generally useful. But in some instances Dr. Symonds gives the preference to inunction, because one can use a sufficient quantity to make an iodised atmosphere for inhalation during the night. Thus, one can direct a lump of the ointment to be laid in one or both axillæ. To the second remedy, the morning dose of quinine, he attaches great importance, not as a tonic, but for the sake of its power in preventing the afternoon access of fever; that apyretic time of day is also a good time for a small quantity of iron. Generally drugs are to be avoided as much as possible in those hours of the day when the more important meals come in. Anodynes and expectorants, if needed, should be confined as much as possible to the evening and night. There are medicines, however, which, even in the day, do not mar the appetite. Some even may help it; such as the mineral acids, nux vomica, and other tonics. But there is one remedy to which Dr. Symonds especially invites the attention of his brethren, not only as an auxiliary to others, but even as making up for the want of cod-liver oil, when this cannot be digested. The substance is chlorate of potash. Dr. Symonds was led to use it first from one's knowledge of its command over sores of the mouth. This sug-

gested to him that the salt might do something towards healing pulmonary sores. Also, he heard of its apparent efficacy in curing glandular ulceration. His experience of it over a period of more than six years has been such as to afford him increasing confidence in this substance as a promoter of the drying up of vomicæ. Even in cases in which cod-liver oil was duly taken, but in which, as will often happen, the patient, though holding his ground in flesh and strength, and suffering no extension of his disease, still gives no sign in cough, sputa, or auscultatory signs, of abatement of the ulceration; in such cases Dr. Symonds has been much gratified by the improvement ensuing on fifteen-grain doses of the chlorate taken twice, or even three times a day. It may be dissolved in plain water or barley-water. In some cases, when cod-liver oil could not be swallowed or digested, the salt has been added to a sarsaparilla mixture. Before dismissing the oil, Dr. Symonds adds his testimony to that of others in regard to the importance of not admitting too readily the statement that the patient cannot take it. Perseverance and tact will generally overcome the difficulty. Minute doses may be smuggled into highly flavoured emulsions; and the plan of combining a strong acid or bitter, first suggested by Dr. Williams, has enabled thousands to take the medicine. In extreme cases, Dr. Symonds has found that the stomach will digest the oleine, though it could not dispose of the pure oil. The stearine can be easily separated by congelation and filtering.

Dr. Dobell's suggestion of adding pancreatine to the oil, or to his fatty emulsion, is an ingenious application of our modern knowledge of physiological chemistry. Dr. Symonds has used both of these substances, and with apparently satisfactory results.

In some constitutions, independently of disgust for oil or fat, the practitioner is thwarted by a stubborn disposition to assimilate the oleaginous principle. In such cases, an abundant use of eggs and also of sugar is recommended as a succedaneum.

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 51.—*On Disease of the Mitral Valve.*

By J. ANDREW, M.D.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Andrew commences his paper by relating a case in which it would appear that a disease of the mitral valve was cured. The patient was a girl, aged nine, in whom the physical signs and some of the rational symptoms very clearly indicated mitral regurgitation, but after treatment for some months the physical and other signs began to improve, and eventually, but not until about three years from the date of her first attendance, the characteristic murmur disappeared, and she became quite well. The improvement was much greater than in any other that Dr. Andrew has ever observed, but he has notes of several cases in

which the progress made was so considerable that he hopes the results in the present case may be equally favourable. In considering the question of the possibility of recovering from mitral disease, it is necessary to distinguish between the several forms of lesion which give rise to regurgitation, for some of these appear to be remediable; but of mitral constriction Dr. Andrew says nothing, believing it to be all but a hopeless affection. Incompetence, however, depends upon causes which are sometimes removable. In rheumatic fever, for instance, it may happen that only the surface of the valve is inflamed, and the murmur may disappear, and no trace of the disease will be left, but in other cases the substance of the valve is inflamed, and the murmur is developed more slowly, and the disease is far more permanent. Supposing that mitral disease is remediable in certain cases, Dr. Andrew suggests that the curative measures should have for their object to diminish the sum-total of the blood in the body; to maintain the nutrition of the heart and its muscular power, and to diminish the frequency and energy of the heart's action. The first object is promoted by prescribing a somewhat restricted diet; the second by the employment of some preparation of iron, preferably the tincture of the perchloride, or quinine; and the third by the avoidance of all excitement, and by the use of digitalis.

Art. 52.—*Persistence of the Isthmus Aortæ; Death from Rupture of the Aorta.*

By Dr. Degen.

(*Archiv f. Klinische Medicin*, iii. 6. *Schmidt's Jahrbücher*, No. 7, 1868.)

The subject of this report was a female of the age of twenty-eight years, who died suddenly after an unusual exertion. She had always been weak and anæmic, but had never suffered from any severe illness. The autopsy revealed the following appearances:—

Pericardium distended with blood; excentric hypertrophy of left ventricle; rigidity and incompetency of aortic valves; the aorta immediately above the valves torn obliquely along one-half of its circumference, external membrane with the exception of a few small openings, intact, the internal membranes from the seat of the rent to the arch of the aorta extensively detached from the outer layers; arch of aorta not much dilated; ductus Botalli completely obstructed. Between this last and the left subclavian artery the aorta was suddenly contracted to the size of a crow's quill; the coats of the vessel at this part were much thickened so as to form a fibrous ring; immediately below this, the artery was found dilated to a spindle-shaped sac, about three inches in length; this became again contracted, and passed into an aorta, which remained somewhat reduced in size. The abdominal aorta was of the size of a normal iliac artery, corresponding to the arch of the aorta; near to the contracted portion of the artery was a slight bending of the vertebral column towards the right side.

Art. 53.—*On a New Sign of Aortic Incompetency.*

By Dr. Marey.

(*Gazette des Hôpitaux*, No. 113, 1868.)

Dr. Marey, at a recent meeting of the Société de Biologie, called the attention of his colleagues to a new sign of aortic incompetency. "Without doubt," he stated, "incompetency of the sigmoid valves of the aorta is one of those affections the diagnosis of which is most certain. The diastolic souffle at the origin of the aorta, and the vibrating and bounding pulse are apparently sufficient for its diagnosis. Still certain aneurisms of the aorta produce at once similar auscultatory signs, and impress upon the pulse the same character." M. Marey has indeed convinced himself by post-mortem examinations, that in a great number of cases in which aneurism is accompanied by these signs, and in which during life a complication of aortic incompetency is suspected, aneurism is in reality the only existing lesion. But the signs which characterize aneurism of the aorta are not always very precise, when, for instance, the tumour is small and deeply seated, and when there is but a slight difference between the pulse of the two radial arteries. If in a case of this kind one finds with a vibratile and bounding pulse, merely the signs connected with the existence of a simple or double souffle at the base of the heart, confusion is inevitable. It is in cases of this kind that the following new sign proposed by M. Marey, may afford great assistance.

In experiments previously made with M. Chauveau upon the physiological movements of the heart, M. Marey also attempted to produce valvular lesions artificially, in order to see whether the physical lines presented by the human subject would be also presented under these conditions. In aortic incompetency, for instance, he was curious to know whether the violence of the pulse existed as a consequence of the valvular lesion itself, or whether it succeeded some ulterior modification of the force of the ventricle. He recognised that the former was the true hypothesis, and that the violent arterial pulse instantaneously succeeded rupture of the valves. But he also observed that the ventricular circulation underwent a very singular modification. Immediately after its systole, the ventricle, instead of being gradually filled with venous blood at a feeble pressure, was distended rapidly, and in a jerking manner, by blood from the aorta, and at a strong pressure. M. Marey then conceived the idea, that if the pulsation of the heart could be registered in man with sufficient precision, that an indication of this rapid repletion of the ventricle could be found in a graphical reproduction of the shock, and that this would be an important sign of aortic incompetency.

M. Marey has since had opportunities for collecting, by means of his apparatus for registering the cardiac pulsations, traces of the heart in patients suffering from incompetency of the aortic valves. These tracings present clearly that character, the existence of which he had been led by his theory to anticipate; that is to say, with incompetency of the sigmoid valves of the aorta, the tracings of the cardiac pulsations, instead of presenting an almost horizontal line during the repose

of the ventricle, as in the normal condition, present at this moment a rapid ascent, showing that the pressure is very rapidly elevated in consequence of the reflux of blood from the aorta.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 54.—*On Hysterical Vomiting.*

By HYDE SALTER, M.D., F.R.S.

(*The Lancet*, July 4 and 11.)

Dr. Salter narrates three cases of hysterical vomiting in which he employed every remedy that he could think of to allay the irritability of the stomach, but without any but the most doubtful and evanescent effect. He gave the patients all kinds of sedatives—opium in various forms, hyoscyamus, belladonna, conium, hydrocyanic acid; he tried creosote, bismuth, oxalate of cerium; valerian, ammonia, ether, assafœtida; shower-bath, iron, quinine—in fact, he exhausted all our resources, both in the treatment of the symptom and of the essential morbid state,—and all in vain. Dr. Salter does not say that all treatment in such cases is necessarily inoperative, but that in order to be operative it must appeal to the state of the nervous system, and that it will only control the sickness in as far as it controls the hysteria. There is one event, however, which, if it could be brought to bear upon either of these cases, would, he believes, at once stop the sickness, and that is the induction of maternity. When the subjects of such symptoms marry, all vomiting ceases; or rather the particular kind of vomiting they have suffered from is exchanged for another and more temporary and tractable kind of sickness—a very wholesome and justifiable form of homœopathy, a rational and intelligible example of "*similia similibus.*"

ART. 55.—*On Ulcer of the Stomach.*

By THOMAS INMAN, M.D., Lond. Physician to the Royal Infirmary.

(*Liverpool Medical and Surgical Reports*, October.)

Amongst the women who present themselves for admission into the wards of the Liverpool Infirmary, a large proportion suffer from ulcer of the stomach. Amongst the male applicants very few indeed have this affection; the proportions are ten of the first to one of the last. The individuals are for the most part young, their ages varying from about twenty to thirty-five. In appearance they are often healthy; and the doctor sees with surprise that good-looking women can be suffering sufficiently to seek for a bed within the walls of a hospital.

The symptoms of the disease, the author writes, are readily recognised. They may be summed up thus:—There is habitual indigestion, a pain increased by all food, and persisting during the whole time the stomach is full. This pain is severe in direct proportion to the food

taken; meat, and such fluids as wine and spirits, aggravate it to its highest pitch. There is also much suffering when the stomach is distended by flatus. Habitual painful dyspepsia, aggravated by a meat diet, is almost pathognomonic of ulcer of the stomach. Such accidents as water-brash, jaundice, hæmatemesis, melæna, vomiting, and gastralgia occasionally happen, but they form an unimportant item in the diagnosis.

The first treatment for ulcer in the stomach is to keep the organ as small as possible. The quantity of food given at any one time must be very limited, *i.e.*, about three ounces should be the maximum.

Next, we must reduce the power of the gastric juice to dissolve the stomach to a minimum; and this can only be effected by a total abstinence from all solid animal diet.

Practically we carry these indications out by restricting our patients to a teacupful of bread and milk every three hours.

The necessity for food must be diminished to a minimum—all exercise and exertion must be forbidden, and the patient confined to bed. This is the routine practice followed in Dr. Inman's wards, and he sees no reason to alter it. After many years of close observation, he is convinced that all medicines, including alcoholic stimulants, are prejudicial; white bismuth is the sole exception; but the cases in which it has seemed to do good do not amount to one in twenty. All aperients do harm, and mercurials are especially baneful. If the bowels require relief, "enemata" are the proper remedies.

Art. 56.—*Treatment of Fermentation in the Stomach.*

By Samuel Fenwick, M.D., M.R.C.P.

(*Morbid States of the Stomach and Duodenum.*)

"In cases of fermentation," Dr. Fenwick says, "the diet should be carefully regulated. Tea, coffee, milk, arrow-root, rice, and similar fluids, so often forced upon the patient during a 'bilious attack,' should be forbidden; and iced water, soda water, Seltzer water, and beef-tea should be substituted.

"As regards remedies, I have generally prescribed creosote in doses of one drop, combined with magnesia; but if there be much subacute inflammation of the mucous membrane the hyposulphite of soda will be found more useful. For some time after the attack has subsided, vegetable tonics in combination with acids or alkalies are required."

Art. 57.—*Diarrhœa and its Treatment at the London Hospitals.*

(*Medical Times and Gazette,* August 1.)

The course of treatment ordinarily pursued at St. Bartholomew's is to give a dose of the haustus aromaticus of the Hospital Pharmacopœia, which consists of half a drachm of aromatic confection in an ounce and a half of cinnamon water. Should, however, the bowels have been in a

lax state for some length of time, a few doses are given at bedtime on successive nights of a mixture of grey powder and Dover's powder in equal proportions, from five to ten grains of this compound being the ordinary dose. Should the motions be lumpy, a dose of castor-oil (half an ounce), with five or ten minims of Battley's liquor opii sedativus, is frequently prescribed.

The ordinary prescription at the Middlesex Hospital is the mistura hæmatoxyli of the Hospital Pharmacopœia. This consists of extract of hæmatoxylon sixty grains; tincture of catechu two drachms; caraway water and boiling water, of each five drachms; to be taken every four hours. Sometimes five or ten minims of laudanum are added to each dose. Chalk mixture, castor-oil and laudanum, and sulphuric acid and opium are sometimes given, but not as a rule. All patients are further directed to go to bed if possible, and to restrict themselves to milk as a beverage.

At St. Thomas's Hospital, between July 4th and 18th, 112 patients labouring under diarrhœa presented themselves at the Hospital, and twenty-four pints of diarrhœa mixture were given away by the porter in single doses. A considerable proportion of the patients were children, among whom the disorder has been most common and most fatal. Diarrhœa in children Dr. Gervis always treats with decoction of logwood combined with lime-water. Dr. Barnes, on the other hand, gives kino, catechu, or krameria, instead of lime-water, along with the decoction of logwood, when there is no vomiting. The casual cases are seen by Mr. Whitfield, the resident medical officer, who ordinarily gives a dose of the Hospital diarrhœa mixture, consisting of tincture of rhubarb half a drachm, tincture of opium ten minims, aromatic spirit of ammonia one drachm, and peppermint-water an ounce and a half, combined with a couple of grains of calomel. This is followed, if necessary, by the so-called "brown mixture," which is also used in the wards to arrest diarrhœa; it consists essentially of forty grains of compound chalk powder with opium in water. Occasionally, when the diarrhœa is bad, and there is vomiting associated with it, Mr. Whitfield orders five or ten grains of carbonate of soda with twenty minims of chlorodyne. Sometimes a mild aperient with an opiate is prescribed, and children are directed to receive lime-water or iced water regularly.

At Charing-cross Hospital a large number of people have presented themselves, both by day and by night. For casual patients the hall-porter is provided with a simple astringent mixture consisting essentially of rhubarb and chalk mixture. This compound, indeed, constitutes the basis of the treatment of diarrhœa at this hospital. Dr. Julius Pollock ordinarily prescribes it when there appears to be any irritant material left in the bowels, and when the tongue is foul and coated. When, however, the flux has lasted for some time, he generally gives dilute sulphuric acid, with tincture of krameria, opium, and cinnamon water. When there is much abdominal pain, he prescribes mustard and linseed poultices or hot fomentations to the belly, and in severe cases insists on the importance of perfect rest and quiet. Dr. Alexander Silver also prescribes rhubarb and chalk mixture, varying the proportions according to the character of the stools and the length of time the disease has lasted. If very recent, an ounce or an ounce and a half of rhubarb

mixture with half an ounce of mistura cretæ is ordered immediately, to be followed up by smaller doses; if the disease has lasted longer, the quantity of chalk mixture is increased, and the rhubarb diminished. Should the stools have become slimy and there be much griping, dilute sulphuric acid and tincture of opium, ten or fifteen drops of each in peppermint water, are ordered. It is rare these cases are seen at the very commencement; if, however, they present themselves sufficiently early, castor oil and laudanum are ordered, whilst for children a few grains of hydrargyrum cum cretâ, combined with a grain or so of compound ipecacuan powder, is found to yield the most satisfactory results. The liquor ferri perchloridi, ten or twelve minims to an ounce of water, is sometimes used in the case of weakly children. It not unfrequently happens that the purgation has followed the use of a laxative or cathartic taken for the purpose of removing uncomfortable feelings in the bowels. When such is the case, Dr. Silver usually prescribes the ordinary lead and opium pill of the British Pharmacopœia.

The usual treatment at the London Hospital has been, when the tongue was foul or at the outset of diarrhœa, to give castor-oil and laudanum, and enjoin rest in bed, with milk or farinaceous diet. But later on, or when the tongue was clean, aromatic sulphuric acid, with logwood decoction, chloric ether, and paregoric; or dilute sulphuric acid, with sulphate of magnesia or manganese; or an effervescing saline, and in two or three cases bromide of potassium. A few cases had chalk mixture. To prevent diarrhœa becoming prevalent in the wards, extra quantities of disinfectants have been used in the water-closets. There has not been any particular prevalence amongst the in-patients.

At King's College Hospital, cases of summer diarrhœa occurring among the out-patients have been treated by Dr. Morris Tonge with purgatives only, if they depend obviously on the presence of some irritating material in the bowel, castor oil and laudanum, or the mist. rhei ammoniata of the Hospital Pharmacopœia, being then given. In diarrhœa depending on other causes, and in cases of the first kind that persist after the matters irritating the bowel seem to have been completely removed by the aperient medicine, astringent mixtures are given, the most usual form being a mixture containing ten minims of aromatic spirits of ammonia, and from five to ten minims of tincture of opium, with half an ounce of chalk mixture and the same quantity of decoction of logwood, this dose being repeated at intervals varying according to the severity of the diarrhœa. The diarrhœa cases among the adult patients have not hitherto been very numerous, and the results of treatment have not been recorded.

Dr. Duffin treats most of his cases by means of castor oil, sometimes following up its exhibition by chalk mixture. A large number of casual cases have occurred, and have been mostly treated by a mixture containing castor oil, tragacanth, and oil of cinnamon, which may be considered the regular diarrhœa mixture of the Hospital.

Dr. Broadbent's treatment in recent cases is castor oil or sulphate of magnesia, with ether, &c., followed by stimulant aromatic tonics; if the purging has been going on for a few days, he usually gives the sulphuric acid and opium mixture at once. Full directions as to diet are given in all cases; in young children he allows only sweetened

barley-water for twelve to twenty-four hours, with a little brandy if necessary.

Dr. Lawson considers that the cases of summer diarrhœa which came under his notice were of two kinds:—(1) Those induced by the direct action of the heat on the nervous system, diminishing the supply of nervous force to the mucous membrane, and so, in accordance with recent researches, enhancing the secretion; and (2), those produced by the use of impure water and the consumption of unripe or decomposing fruit. With this idea in view, he has been adopting two distinct lines of treatment for these cases. In the first form he has found the best results from the employment of salicine in from six-grain to eight-grain doses, once, twice, or in extreme cases, three times a day. In the second form, he has found most advantage from the tincture of perchloride of iron in doses of from ten to fifteen minims in bitter infusion three times a day. Chalk mixture, alone or in combination with catechu, has been of little service; but the salicine and tinctura ferri perchloridi produced the happiest results. The diarrhœa of children he has treated best by stopping the supply of milk and substituting beef-tea, and by administering brandy and the aromatic sulphuric acid in very minute doses.

At University College Hospital the mixture consisted essentially of dilute sulphuric acid in an aromatic water.

The ordinary treatment at Guy's is by astringents, the mixture containing chalk, opium, and catechu. In some instances a little Dover's powder is prescribed in the julep ammoniæ of the Hospital Pharmacopœia.

At Westminster the patients are prescribed for by the House-Surgeons, the treatment varying; sometimes it consists of castor oil and opium, or chalk and opium. Dr. Basham's favourite prescription is sulphuric acid and laudanum, five minims of the former and three of the latter to an ounce of water. The compound rhubarb mixture is also frequently prescribed. It contains tincture of rhubarb and chalk. For children simple chalk mixture is mostly given.

Art. 58.—*Thermometrical Observations in Enteric Fever.*

By T. Maclagan, M.D.

(*Edinburgh Medical Journal*, August.)

The facts contained in this paper may be briefly summarized:—

1. The main feature in the thermometry of a typical case of enteric fever is a marked tendency to a morning fall and evening rise, which during defervescence is so great as to be characteristic of the disease.

2. The temperature during the continuance of the febrile state, however, does not enable us to distinguish enteric from other forms of fever.

3. In cases resembling, and apt to be mistaken for typhus, the evidence given by the thermometer is uncertain, and not equal in value to that got from other sources, especially the condition of the eyes.

4. In cases which throughout have been doubtful, it often gives during defervescence the only certain testimony as to the nature of the malady.

5. When head-symptoms are severe, and death is threatened by coma, the range of the temperature is generally high and irregular; but the more rapid onset of the head-symptoms in such cases does not permit of the thermometer giving the same premonitory indications which it often gives in typhus.

6. Irregularities in the range, absence of the morning fall, and still more a morning temperature which exceeds that of the evening, are indications of severity, and specially so when the range is at the same time high.

7. A fall of the morning temperature at the end of the second week, and a subsequent range during the third lower than that which existed during the second, are favourable signs.

8. The highest range occurs in cases which present marked head-symptoms.

9. Inflammatory affections springing up during the course of the disease have an elevating tendency.

10. Hæmorrhages and diarrhœa have, when profuse, a lowering tendency.

11. A fall of the morning range is generally the first sign of commencing defervescence.

12. Elevation of the temperature is one of the earliest indications of a relapse.

Art. 59.—*Practical Observations on the Nature and Medical Treatment of Obstruction of the Bowels, and upon Constipation.*

By Thomas Head, M.D.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Medico-Chirurgical Review*, October.)

Dr. Head draws a distinction between obstruction of the bowels, or an entire interruption of their ordinary functions, and constipation, which is a less serious affection. The former most commonly arises from intussusception, and from the lodgment of particles of undigested food in or near the ilio-cœcal valve, and more rarely from hernia and from malignant disease of the bowels; the latter has its seat almost exclusively in the large intestine. In one of the cases related, which was that of a child five months old, there was obstinate obstruction of the bowels, and the treatment adopted by Dr. Head was to inject warm oil and quicksilver into the bowls, and then to hold the child up by the legs so as to allow the quicksilver to traverse the intestinal tube by gravitation. This practice, although novel, is described as being successful. In cases of malignant diseases nothing can be expected from treatment except the alleviation of the sufferings of the patient. Constipation of the bowels is a common affection, and it is almost incredible to what an

extent the large intestines may be loaded with scybalous concretions without causing the patient any remarkable inconvenience. Married women, of middle age, have sometimes regarded the sense of fulness and weight of the abdomen as indicative of pregnancy. For the removal of such scybalous masses, the retention of which in the higher portions of the colon is likely sometimes to produce relaxation resembling diarrhœa, Dr. Head recommends small doses of blue pill and podophyllin, with a little acetate of lead, with about a quarter or a sixth of a grain of opium, and a drop of creosote at bedtime, for several successive nights, followed in the morning by a draught consisting of castor oil, liquor potassæ, a little chloroform, and a few drops of laudanum. Dr. Head notices that a laceration of the mucous membrane covering the sphincter ani is sometimes caused by the passage of hard scybalous fæces and by the forcible expulsive actions of the abdominal and intestinal muscles.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 60.—*The Prognosis of Diabetes.*

By Prof. OPPOLZER. Translated by ALFRED L. HASKINS, M.D., Boston, Mass.

(*New York Medical Journal*, October.)

The prognosis of diabetes is always very unfavourable. In the majority of cases it ends in death. It is only in those cases where the secretion of sugar is not very considerable, and where the general health is not perceptibly disturbed, that the life of the patient can be much prolonged by a proper regimen. If the quantity of sugar in the urine is considerable the prognosis is hopeless. The patients succumb to marasmus. The prognosis is also very doubtful when the glycosuria is complicated with other diseases, as affections of the lungs and liver. If the patient is very much reduced and emaciated, or if tuberculosis of the lungs develops itself in diabetes, the prognosis is very unfavourable. If, together with albumen, sugar is also found in the urine, the prognosis is not less unfavourable. If sugar appears in the urine in consequence of cerebral lesions, it is only a temporary symptom. In such cases, however, the cerebral lesions are generally of a very critical nature, and may be the cause of death. There is here a double danger; danger from the wound itself, and also from the glycosuria. There are also instances known where, after concussions of the brain and blows upon the head, a persistent diabetes was developed, which occasioned death, although the wound in itself was very little dangerous, and attended by no bad symptoms.

None the less dangerous are the other complications of diabetes, broncho and pleuro-pneumonia, which generally terminate fatally. Gangrene of the lungs is of course very dangerous. The disappearance of the sugar in such complications should by no means be regarded as a favourable symptom. They cause for a time the disappearance of the sugar, and also the other symptoms of diabetes, but they produce no constant favourable influence upon the disease, for either the patient succumbs to the complicating disease, or, when this is overcome, the symptoms of diabetes return in undiminished force.

Art. 61.—*On the Physiology of Diabetes.*

By M. Ed. Cruveilhier.

(*L'Union Médicale*, No. 59, 1868.)

The following are the concluding statements in a paper read before the Medico-Chirurgical Society of Paris by M. E. Cruveilhier :—

Diabetes may be due to increased action of the liver, or to a disturbance of nutrition, which disturbance is characterised by the non-oxydation of the sugar contained in the organism. The increased action of the liver occurs very seldom, disturbance of nutrition very frequently. Both these actions, however, are in dependence upon the same system, viz., the nervous.

Far from localising the portion of the nervous system which exerts an action in this sense, the facts of traumatic diabetes show that disturbances of the whole central nervous system, and even of the visceral plexuses, may produce diabetes; a general concussion caused by an energetic movement, may produce diabetic polyuria and fatal diabetes.

Warned by these facts, the surgeon should not neglect to examine the urine whenever he has to perform an operation upon an individual suffering from some traumatic lesion, as for example a severe contused wound. The gravity of operations performed upon diabetic patients is well known. The operation is performed upon an organism, the nutrition of which is affected, and in which unassimilated products accumulate. We are therefore not surprised when the reaction necessary for the healing of wounds is not established, and when the tissues mortify and undergo the diabetic gangrene so fully investigated by M. Marchal de Calvi.

Art. 62.—*Diagnosis and Treatment of Diabetes Mellitus.*

By Prof. Oppolzer. Translated by Alfred L. Haskins, M.D., Boston, Mass.

(*New York Medical Journal*, October.)

The diagnosis of diabetes is not difficult, and as soon as we observe in a patient constant thirst, a continual feeling of dryness in the mouth, and later on polyuria, especially if there are no febrile symptoms present, it becomes our duty to examine the urine for sugar. The physician should endeavour to observe the disease at its very outset. Amblyopia and retinitis, as well as various ulcerations, caries, and necrosis, are wont sometimes to introduce the disease. All of these symptoms will be the better estimated if an early examination of the urine is not neglected. The early diagnosis is also of great value for its treatment. The urine ought especially to be examined during digestion, when the quantity of sugar is generally increased. Especial attention should be devoted to the condition of the respiratory organs and the state of the liver, and this organ should be subjected to a careful examination. The simple proof of sugar in the urine does not always justify the diagnosis

of diabetes, as sugar has been found in the urine when a large amount has been eaten, and Blot has shown that pregnant women and patients suffering from gout very often pass urine containing sugar. An increase in the quantity of urine evacuated is also not a sufficient proof of diabetes. This is simply polyuria, or diabetes insipidus. This last disease, however, is very unfrequent, and is to be regarded as an affection of the vagus nerve. In this disease there is also great thirst, the specific gravity of the urine is not high, and there is neither grape nor muscle sugar present. When the last-named sugar is present, the disease is called diabetes inorites. In diabetes insipidus the urine contains but a very small quantity of the urinary salts, and scarcely any urea; there is also great dryness of the tissues and increased thirst, and, as a large amount of water is drunk, the ingredients of the urine are much diluted. Oppolzer has observed polyuria or diabetes insipidus among children who had the measles, and administered in such cases the fused nitrate of potash.

℞ Potassæ nitratis fusæ ʒj.
Aquæ destillatæ Oj.
M. et sig. Drink in one day.

Tannin is also given. The French administer belladonna, carbonic acid water, and good food.

To combat diabetes mellitus, it is necessary above all things to regulate the diet and limit the patient to the least possible amount of amylaceous food. The treatment is purely dietetic and empirical. The remedies recommended as specifics, upon this or that hypothesis, have proved themselves wholly without effect. In many cases abstinence from amylaceous food causes the secretion of sugar in the urine, and most of the other symptoms, to cease. In such cases the sugar is probably prepared only at the expense of the amylaceous food, and the elements of the tissues have not yet been employed in its formation. Still more important are those forms of diabetes in which, in spite of exclusive indulgence in animal food, the secretion of sugar in the urine still continues. In these cases the formation of sugar takes place at the expense of the nitrogenous elements of the tissues. On account of the abnormal change of these most important organic elements, those symptoms appear which in diabetes are of such sad significance: extreme emaciation, such as scarcely any other disease exhibits, great weakness, and complete prostration of the muscular strength. For this excessive expenditure of material, the greatest possible reparation must be rendered, and this can take place only by means of a supply from the nitrogenous substances. The longer the supply is able to compensate for the waste of the system, the longer will the patient survive. If the patient indulges in much amylaceous food, not only is the amount of sugar augmented, and many other troublesome symptoms increased, as secretion of urine and thirst, but also more power is demanded for the digestion of this food, and the supply of nitrogenous food, compensating for the organic elements which have been used, is limited.

The diet can exert no direct influence upon the disease itself; it is only able to prolong the life of the patient. Oppolzer sometimes em-

ploys benzoic acid in diabetes, although its good effects are questionable.

℞ Sodæ benzoatis, ℈j.
Sacchari albi, ℥j.
M. et ft. pulver. div. in partes æquales No. 6.
Sig. One powder every three hours.

If in the course of diabetes violent febrile symptoms appear, as they are not unfrequently wont to attend the complications which have been mentioned, quinine should be administered. The best remedies which we know for this disease are empirical. They are carbonic acid, the alkaline carbonates, and those mineral waters which contain these alkalies. Among these waters Carlsbad and Vichy take unquestionably the highest rank. Carlsbad decreases the secretion of sugar, but by no means produces a complete cessation of its abnormal production.

As already stated, animal food is the best diet for diabetic patients. It was regarded by Rollo as a very appropriate diet, and ham was recommended by him. But, in recommending this diet, the amylaceous food should not be wholly forbidden. Bread and dessert may be allowed in small quantities, as an exclusive diet of meat becomes very repulsive. Care should be given that the diet is composed principally of meat, but indeed when meat only is eaten, sugar is often found in the urine. Instead of common bread, a gluten bread has been tried in diabetes. This, together with meat, was given to diabetic patients, instead of the common flour bread. With some patients this substitute agreed very well. They were satisfied with it, and ate it freely. Oppolzer has, however, seen many patients to whom this bread was very repulsive, and they positively refused to take it, so that small quantities of common bread could not be denied them. Quite recently attempts have been made to bake a good and palatable bread for diabetic patients, which consists in part only of glue. This is given in small quantities, in cases where the common bread cannot be entirely dispensed with.

Care should be taken that there should be a variety in the use of animal food. If it is always given in the same form it becomes repulsive to the patient. The diet may consist of meat in different forms, roast meats, beefsteak, fish, ham, venison, and sausages of various kinds. Diabetic patients may also eat eggs prepared in different ways, and fatty substances, including fatty nuts and fruits. Of vegetables, cabbage, asparagus, lettuce, carrots, and all kinds of salads may be allowed. The food to be avoided is every kind of grain, potatoes, all amylaceous legumes, all sweet fruits, and the juices of fruit. Milk is also an improper food, on account of the milk-sugar which it contains; however, small quantities of milk, and especially good rich cream, may be allowed.

Moderation is to be recommended to patients in satisfying the tormenting thirst from which they suffer in diabetes. As a drink, cold water, acidulated water, and lemonade, are good. Wine and brandy should be allowed only in small quantities. Thus given, it is useful to patients. When the pecuniary circumstances of the patient permit, the daily use of a half or whole bottle of the red French wine, or any

astringent wine, may be recommended. To poor patients, common red wine or a little brandy may be given. All sweet wines and beer are less useful. Tea and coffee, without sugar, but with some cream, good meat broths, with vegetables, gluten, and small quantities of rum, are allowed. When the thirst is great, carbonic acid water, soda and Seltzer water, are the best to be given. If these are not sufficient to satisfy the thirst, drinks made from hops or other bitter substances may be prepared. In the early stages of the disease a suitable diet generally succeeds in moderating the thirst. The patient is then better able to heed the advice to drink but little. Patients should also be advised to take their food slowly, and in small quantities. The desire for food as well as drink must be controlled.

In order to complete the hygienic measures, diabetic patients are advised to take regular exercise. Oppolzer advises patients to guard against taking cold, and to wear warm clothing. This should be especially recommended to patients who suffer from cold and have a dry skin.

Of the medicines which have been recommended and extolled in diabetes a few only have merited approval. Miahle has very highly recommended the alkalies in diabetes. He grounds his opinion upon the supposed existence of acids in diabetes, which are neutralized by the alkalies. Too much, however, must not be expected from the use of the alkalies. A moderate use of the alkalies in such quantities as are found in the alkaline mineral waters, in order to aid digestion when this is much disturbed, may indeed be of use, and may aid the normal assimilation of the food. Oppolzer, however, has not observed the good effects of large doses of the alkalies. Miahle prescribes them through several weeks.

Attempts should not be made to control or suppress the secretion of sugar, which appears in the urine after meals. If an attempt is made to suppress this physiological function, more harm than good may be done. The same may be said of the glycosuria of pregnant and lying-in women; but if disturbances of the respiration, diseases of the liver, or lesions of the brain are the cause of the glycosuria, attempts should be made to remove them. Lesions of the cerebro-spinal system have been very frequently regarded as the cause of diabetes. This theory has for its foundation experiments made upon animals, whereby diabetes, or rather glycosuria, was produced by means of artificial lesions of the cerebro-spinal system. If, in a case of diabetes, any disease of the cerebro-spinal system was found, this lesion was immediately regarded as the cause of the diabetes. It is, however, difficult to maintain this view in all cases.

In numerous cases which we find recorded in medical literature, various nervous complications are mentioned. As complications of diabetes, Oppolzer has observed many disturbances of the various nervous branches, as, paralysis of the facial nerve, neuralgia of the trigemini, etc. These neuralgias appear to depend upon an excess of urea in the system. In the treatment of these complications, regard must be had not only to the symptoms of the patient, but also to the patient himself, who in this disease is much reduced and weakened. Bleeding, although local, in such cases should be discountenanced, as the loss of blood generally reduces the patient still more. The benefit of the revulsives

in some cases, however, is not to be denied. They should, therefore, be preferred to leeches and cups. In many cases of neuralgia, when it cannot otherwise be relieved, resort may be had to sinapisms and vesicants.

Oppolzer has observed in one case an obstinate sciatica, which came on in the course of diabetes. The patient was not able to sleep, and was in a condition of great excitement on account of the severe pain. The attacks attained such a violence that they were more dangerous than the diabetes itself. Laudanum and quinine, which at first produced a temporary relief, proved later of no use. Resort was had to the revulsives, which occasioned much alleviation to the paroxysms of pain. The patient, who was still more reduced by the pain, again recovered, but the sugar in the urine remained the same in amount.

Of the other remedies which are recommended in diabetes, carbonate of ammonia deserves mention. This was highly recommended by Bouchardat, and before him by Neumann and Barlow. He gave a solution of one to two drachms in four to six ounces of water, which was the quantity to be used in a day. Oppolzer, however, has never been able to obtain any good results with this medicine.

The use of opium in diabetes has been much praised by several physicians. Since the experiments of Bernard, who demonstrated the influence of the irritation of the nerves upon diabetes, this remedy appears in several respects to have done good service in this disease. But Peter Frank and other older physicians had previously contended that opium was best adapted to lessen the secretion of urine. According to Oppolzer's experience, there are indeed some cases of diabetes in which the use of opium is beneficial; nevertheless, it is of use only in the symptomatic treatment of diabetes. It has by no means proved itself a remedy for the disease. From a theoretical stand-point, Bernard could indeed speak in favour of opium; in the practice, however, his views have been by no means verified.

Many other medicines, for example yeast, have been recommended in diabetes, but they have not been approved in practice. It has been shown that, in advanced stages of diabetes, yeast is able to accomplish little if anything. Many astringent substances have been highly praised; experience, however, has not confirmed their beneficial effects, but has shown rather that they frequently do harm by disturbing digestion. Indeed, in diabetes, especially in the first stage, no drugs should be employed except in case of necessity. For the first stage of the disease, a suitable dietetic treatment is the best. In the second stage the treatment should be symptomatic. If the strength of the patient is much reduced, tonic medicines are indicated. Oppolzer employs iron and quinine. The doses and the preparation should be adapted to the individual, the digestion, and the special case, whatever it may be. Instead of quinine, a properly prepared wine of quinine may be given with advantage.

A frequent complication of diabetes is pneumonia. It arises quite often from a very insignificant accidental cause, as a slight exposure to cold. Although similar exposures may produce a pneumonia in a healthy person, yet in diabetes such pernicious causes more frequently give rise to pneumonia than is the case in healthy subjects. It may be said that

in diabetes, generally, slight causes are sufficient to produce an inflammation of the lungs. Such a complication is, however, one of the greatest significance; for in diabetes the appearance of pneumonia, however slight it may be, is especially dangerous. In the majority of cases it terminates fatally. The course of pneumonia in diabetes is quite different from that of pneumonia in a healthy subject. The reaction is insufficient, and, as the vitality is diminished, the patient soon dies. Indeed, while the course of diabetes is generally chronic, it is soon changed when pneumonia appears, which leads rapidly to a fatal termination. The treatment is generally powerless, if the pneumonia be at all extensive. Therefore in the treatment of diabetes, such dangerous exposures should be avoided as much as possible. As experience shows, diabetic patients are very sensitive to the action of cold. Patients must therefore be protected as much as possible from such pernicious influences. This can be best accomplished by means of resonable prophylactic measures. The patient must always dress warm, and be warned of the dangerous influence of cold. A warm climate is more tolerable to such patients than a cold climate, and if practicable such patients should be sent into a warm region. As experience shows, diabetic patients are quite well in a mild region near the sea, and when sent here improve in health, and increase in flesh and strength. A damp, misty climate is very unfavourable to diabetic patients. If pneumonia attacks a diabetic patient, the treatment is generally of no use. It runs a very rapid course, and the patient generally dies within twenty-four hours. Neither local nor general bleeding should be resorted to, as the prostration of the system is very great. From other medicines, as ipecac., calomel, and the revulsives, very little is to be expected. Dangerous symptoms are to be treated as they appear, and patients must be strengthened by tonics in so far as they are able to tolerate them. Oppolzer has seen a case of diabetes which overcame a light attack of pneumonia. Liquor ammoniæ was given. Small doses of opium were also administered to allay the cough. Transpiration was promoted by suitable remedies. The patient lived two years and a half after recovery from the pneumonia, and died finally of tuberculosis.

In diabetes gangrene of the lungs not unfrequently appears in consequence of the pneumonia. Such a termination may be diagnosticated from the fetidness of the sputa. They are blackish, rather adhesive, and very abundant. From medicines in this complication but little is to be expected. Tonics are mostly indicated.

Sometimes other peculiar complications appear in diabetes. Stomatitis and aphthæ, and oftentimes ulcers on the mucous membrane of the mouth, throat, tongue, gums, and lips, are observed. Extensive destruction of different parts also occurs. Oppolzer has observed an obstinate case of stomatitis in diabetes which defied all treatment. He employed as a wash for the mouth iodine in vain. Cauterization and scarification were also of no use, and there followed a very extensive gangrene of the mouth, gums, lips, and throat, in consequence of which the patient died. In other fresh and less obstinate cases, the above remedies and also washes of peppermint and camphor render good service. It is the presence of the primary disease which renders these complications so obstinate. Such inflammations of the mucous mem-

brane in diabetes easily assume considerable dimensions and lead to gangrene, as the power of reaction and the vitality of the system are very low. When the mouth, therefore, is attacked with these affections, it will often be impossible by any therapeutical treatment to afford relief. Local treatment is of no avail so long as the primary disease remains. A proper prophylactic treatment is, however, of great utility. In fresh cases, where the system is not much weakened by the general disease, much good results from cleansing the mouth with the above-mentioned washes. The first duty is to oppose the general disease, and, if this endeavour is successful, the local treatment will be much more satisfactory.

As frequent complications in diabetes, the affections of the skin are to be mentioned. Erysipelatous inflammations are the most frequent. These inflammatory complications were often observed by the older physicians, and sometimes they assume a very serious character, and give rise to extensive necrosis and destruction of the skin and cellular tissue. The termination of inflammation in diabetes is very frequently gangrene, and such an event is always to be feared. As complications in diabetes, other affections of the skin are described by different authors. Marchal de Calvi has directed attention to spontaneous gangrene of the skin extending over a large surface. He has also observed erythema of the skin. Fritz, Landouzy, and Wagner, have published similar observations. There are also numerous instances in which papular, squamous, and pustular eruptions were observed as complications of diabetes.

The gangrenous affections of the skin may be divided into three groups, the phlegmonous, the gangrenous, and the furunculous. There is much variety of opinion as to the influence which these complications have upon the primary disease. It has been asserted that these complications sometimes occasion an improvement in the general health, and a decrease in the secretion of sugar. Prout and others have observed the contrary. The observation of some physicians who have found sugar in the urine of patients suffering from carbuncles, or a number of boils, is of importance. In the treatment of these cutaneous complications in diabetes, the primary affection should not be neglected, and the principal treatment should be directed to this. The local treatment for the skin will vary according to the different lesions.

In the second stage of diabetes complications on the part of the digestive organs not unfrequently appear, while in the first stage perfect digestion is enjoyed. Not unfrequently in diabetes cardialgia shows itself. Oppolzer has observed such a case, in which, however, the digestion was not disturbed.

Gastric catarrh is also observed as a complication in the second stage of the disease. Oppolzer observed such a complication which made its appearance quite vehemently. The patient vomited very often, became much reduced in strength, and soon died. Oppolzer has observed also catarrh of the intestines in this stage. This hastens the fatal termination if astringents and opiates are not administered to quiet the diarrhœa. Especial attention should be given to the complications at their very commencement. In the first stage of the disease, dryness of the intestines is a prominent symptom, which is explained by the copious urinary discharges. Mild aperients should be given in such cases.

In the first stage of diabetes there are no disturbances of the liver. In the second stage, however, when the patient is much reduced and emaciated, an atrophied condition of this organ is not unfrequently observed. At autopsies, Oppolzer has often seen this organ atrophied, while in the beginning of the disease it was for some time enlarged.

Finally, the complications on the part of the urinary organs are to be mentioned. The kidneys are generally enlarged, or at least in a condition of hypertrophy, in consequence of the increased diuresis. The volume of the vessels and the Malpighian corpuscles are increased.

In many cases albuminuria is associated with diabetes, and the kidneys then undergo the metamorphosis which takes place in this disease. The cortical substance is then found in a condition of granular and fatty infiltration.

The bladder, in diabetes, is found considerably enlarged.

Art. 63.—*On Addison's Disease.*

By Professor Jaccoud.

(*Medical Times and Gazette*, October 10.)

Dr. Jaccoud has recently contributed an admirable article on this subject to one of the large French Medical dictionaries now in course of publication.* After a few remarks on the different names that he and others have suggested for this disease—as the "bronzed disease," "suprarenal melasma," "asthenic melanodermia," and "suprarenal asthenia,"—he gives an abstract of 127 "observations on melanodermia accompanied with lesions of the suprarenal capsules," arranged in a tabular form. The first case in his table was observed by Bright, and recorded in 1829, while his last case is one described by Pitman in 1864. As in each case not only the name of the observer and reference to the publication in which it is recorded, but also the sex and age of the patient, the duration of the illness, the antecedents and predominating symptoms independently of the melanodermia, the lesions of the capsules, and the other lesions independent of those of the capsules, are recorded in sufficient detail, it is obvious that the compilation of this table must have been the result of gigantic labour. He then gives similar tables of seventeen "observations on melanodermia without lesions of the suprarenal capsules," and of fifty-eight "observations of lesions of the capsules without melanodermia." Of the 202 cases included in these three tables the majority have been observed by English physicians, but America, France, Germany, Italy, Scandinavia, and Russia have likewise afforded a considerable number. Without entering into the well-known symptoms of this disease, we shall give, as briefly as possible, some of the numerical results which the author has deduced from his tables. In the 127 cases in the first table, per-

* "Bronzée (maladie) ou Maladie d'Addison." In the "Nouveau Dictionnaire de Médecine et Chirurgie Pratiques." Tome sixième. 1866. Pp. 676—773. Paris: Baillière. London: Baillière; and Williams and Norgate.

sistent vomiting was noticed in 74; hence, excepting asthenia, which was universally present, this symptom occupies the first place in the pathological characteristics. Lumbo-abdominal pains constituted the second predominating feature, being present in 71 cases, their most common seat being the true lumbar region, where it was noticed in 34 cases. Next in order to asthenia, vomiting, and lumbo-abdominal pains, there is great disturbance of the nervous system, showing itself in the varied forms of headache, convulsions, vertigo, delirium, and coma. Transitory headaches were very common, and in 11 cases this symptom was persistent. Convulsions, which were usually confined to one or two of the limbs, and sometimes to only a special group of muscles—as, for instance, the facial muscles or the flexors of the forearm—were noticed in 19 cases. No connexion can be established between the headache or the convulsions and the stage of the disease, but coma and delirium are chiefly associated with its later stages. Excluding certain doubtful cases, delirium was noticed in 10 and coma in 12 cases. Vertigo was only specially mentioned in 6 cases, but a tendency to fainting was very common; and frequent, well-marked syncope was observed in nine cases. Emaciation was only noticed in 32 cases, most of which were also phthisical. In the only 12 cases in which the blood was examined, leukæmia was observed in 8, but Dr. Jaccoud is inclined to refer this condition to organic changes coincident with the suprarenal lesions, and not to changes in the capsules themselves. In 10 of the 127 cases the asthenia was throughout the disease the only symptom associated with the discoloration of the skin. In 111 of the cases the discoloration of the skin was general and uniformly distributed, in 14 it was partial, and in 2 it occurred in patches; and it is worthy of notice that in all of these exceptional 16 cases the disease was complicated with other serious affections, as cancer or tubercle. The morbid brown colouring is not always limited to the skin; it is not unfrequently observed on the labial, buccal, and vaginal mucous membranes, and is very common in the lymphatic glands, the lungs, and the abdominal viscera. Brown patches have also been observed on the peritoneum. In one of the recorded cases the nails, and in another the teeth, assumed the colour of the skin; and in one instance the hair, which was previously chestnut, became black.

There seems to be no law regarding the duration of the disease, but of the 94 cases in which it was noticed the range of the disease varied from six weeks to nine years. If, however, we reject cases which are complicated with other serious diseases, we have left 28 cases of the pure affection in which the duration is noted, and in more than two-thirds of these (20 in 28) the length of the disease ranged from six weeks to a year, in 2 cases it extended to two years, and in 6 it exceeded that term. Of the 127 cases, 79 were males and 48 females. The limits of age were 3 and 69 years. Between the ages 3 and 10 years 1 case is recorded; between 10 and 20 there were 24 cases; between 20 and 30, 30 cases; between 30 and 40, 31 cases; between 40 and 50, 18 cases; and between 50 and 60, 8 cases; after which age there were 3 cases.

From the second table of 17 cases of melanodermia without lesions of the suprarenal capsules, our author comes to the conclusion that the

skin affection alone does not suffice to constitute the disease in question, but that other characteristic symptoms must be present. There is, he observes, nothing in the table which tends to disprove the conclusions drawn from the former one. In regard to the third table, comprising 58 cases in which there were lesions of the capsules without discoloration of the skin, he observes that in all but three there is an omission which singularly diminishes their value, nothing being recorded of any of the essential symptoms except the discoloration of the skin. He likewise brings forward other good reasons why no safe conclusions can be drawn from this table.

His remarks on treatment are brief but judicious. After noticing iron, bark, and tonic treatment generally, including some wine rich in alcohol—as, for example, Banyuls*—iodide of potassium, and the bromides, he suggests that in the early stage blisters or cauteries may be applied over the region of the capsules; and, if these prove useless, and the characteristic torpor of the last stage appears, recourse may be had to the local application of electricity, with the view of exciting the flagging excitability of the central nervous system. These views, however, appear to be merely hypothetical, and not to be based on experimental trial.

ART. 64.—*Observations on the Passage of certain Substances into the Urine in Healthy and Diseased States of the Kidneys.*

By DYCE DUCKWORTH, M.D.

(*St. Bartholomew's Hospital Reports*, vol. iii., and *British and Foreign Medico-Chirurgical Review*, October.)

Dr. Duckworth in this paper embodies a series of experiments conducted by him during the last two years. The first series of experiments refers to the excretion of some pigmentary and odorous substances by the healthy kidney, including the iodide of ethyl, iodide of potassium, bromide of potassium, indigo, aniline, logwood, turmeric, and santonine. It is known that most of these substances can be detected in the urine when the kidneys are healthy, but in opposition to assertions to the contrary, Dr. Duckworth shows that the pigments of indigo and logwood are excreted by the healthy kidneys. The second series of experiments was made upon patients suffering from disease of the kidneys, and the question was, to determine whether medicinal and odoriferous substances passed through the unhealthy as well as the healthy organs. The general opinion was that they did not; but Dr. Duckworth shows that this opinion is not altogether supported by facts. In his examinations he employed chiefly santonine, iodide of potassium, and turpentine; and he found that, in a certain number of cases, where the patients were suffering from diseased kidneys, the

* Banyuls is a strong sweet wine obtained from the Department of the Eastern Pyrenees; it contains about 15 per cent. (by volume) of alcohol.

above-mentioned substances were found in the urine. Santonine, Dr. Duckworth believes, has not been previously employed in the manner described in his experiments; but he observes that it is easily exhibited, is the least unpleasant of all the substances he has used, and also yields its reaction in a very marked manner.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 65.—*On Lepra Alphos; the Lepra of the Greeks, or Common Leprosy.*

By ERASMUS WILSON, F.R.S.

(*Journal of Cutaneous Medicine*, October.)

Mr. Wilson draws the following conclusions from the observations contained in this highly interesting paper:—

1. That the more correct name for the disease is that which was assigned to it by the Greeks, namely, *lepra.*
2. That lepra or lepra alphos must be regarded as a *nutritive disorder of the skin* rather than inflammation.
3. That lepra alphos is the manifestation of a tendency or *diathesis*, which is often hereditary, and at other times acquired.
4. That lepra alphos is very closely allied pathologically with *tubercle-degeneration*, as manifested by phthisis.
5. And finally, that a *discutient treatment* externally, and a *neurotonic treatment* internally, is that upon which we may rely most confidently for a cure.

ART. 66.—*Notes on Acne Rosacea.*

By H. S. PURDON, M.D., L.R.C.P. Edin., L.R.C.S.I., Physician Belfast Dispensary for Diseases of the Skin, Assistant-Physician Belfast Charitable Infirmary and Institution, &c.

(*Medical Press and Circular*, June 10.)

To cure this disease permanently it is generally necessary to put the patient under a course of arsenic, which may be commenced as soon as the tongue is clean and the liver in proper working order. The preparation that Dr. Purdon usually prescribes is the liquor sodæ arseniatis, given in doses of ten drops thrice daily after food. In some cases where the patients are what is commonly called "bilious," it is necessary to order taraxacum, and the following is a good form for its administration; it also acts as a diuretic:—

℞ Decoct. scoparii, ad ℥viij.
Spt. etheri nitrosi, ℥ij.
Succi taraxaci ℥j.
Sig., a tablespoonful three times in the day.

For flatulence, a common complaint amongst these patients, the effi-

cacy of the compound tincture of cardamom is well known, or the following, if the appetite is impaired and depression of spirits complained of:—

℞ Tinct. valerian. ammoniat. ℥iss.
Quiniæ sulphat. gr. xx.
Sig., a teaspoonful three times a day in a wineglassful of water.

The nitro-hydrochloric acid foot-bath is also a valuable agent.

In the treatment of acne rosacea by external applications, the hypochloride of sulphur ointment, one drachm to the ounce, is a very valuable application, and stands first on the list in importance, being superior to the iodide of sulphur. The following ointment Dr. Purdon has used in several cases with the best results:—

℞ Hydrargyri iodi virid. gr. x.
Sulphuris, ℥j.
Adeps, ℥j.

A little oil of bergamot or bitter almonds may be added to cover the smell of the sulphur. Individuals the subject of acne after exposure to excess of heat, as over a large fire, are frequently troubled by an increase of inflammation of an acute nature in the affected part. In such cases the constant application of the "glycerole of starch" for a few days is of benefit, and in place of soap the following may be used: —Take of glycerine, by weight, five parts, yolk of egg four parts, mix; this application, which has lately been recommended in the *Philadelphia Journal of Pharmacy*, is of a very soothing nature, and is of the consistence of honey, a little of which can be applied before exposure to cold, heat, &c.

In inveterate cases, painting the part affected with the solution of the terchloride of antimony for a few seconds, and afterwards applying a sponge soaked in a solution of carbonate of soda, is of benefit, especially when the integument is much thickened; a poultice of rice-flour being applied at night, or Dr. Ross's method of treatment may be adopted instead, which consists in puncturing each separate tubercle, and inserting an ordinary capillary vaccination tube, containing a drop or two of nitric acid. This excites inflammation of the follicles, and thus occasions obliteration. Dr. Purdon can strongly recommend this method of treatment, as he has found it successful in many cases where ointments and lotions had proved useless.

It is a common custom, Dr. Purdon says, to prescribe the bichloride of mercury in the form of a lotion in the treatment of acne. Now, if this remedy be persevered in for any length of time, it occasions a scaliness and hardness of the cuticle which is very annoying. Borax has quite the contrary effect; it is equally efficacious, and can be prescribed in conjunction with glycerine and tincture of benzoin.

Art. 67.—*Phosphorus in Cutaneous Disease.*

(*Journal of Cutaneous Medicine*, October.)

Phosphorus, as a renovator of nerve-tissue and nerve force, has considerable claim to be considered a possibly useful remedy for a class of

diseases which are due to debility and consequently to exhaustion of nerve-power. To this class belong all the nutritive affections of the skin, and many of those of congestion.

Since our attention was first drawn to the virtues of phosphorus, we have employed it in lupus, in general alopekia, and in several cases of nerve irritability and nerve exhaustion, and with the most encouraging results. We have adopted as our formulæ, one grain to four ounces of cod-liver oil, a teaspoonful a dose, directly after meals, three times a day; and one grain dissolved in a drachm and a half of suet, and divided into thirty pills; one three times a day at similar periods; and we have increased the strength of each formula, on repetition, to one grain and a half of phosphorus. We have met with no deterring symptoms, and where the remedy did not seem to be doing good, it was, in the opposite sense, negative. A delicate young lady afflicted with scrofulous lupus, mentioned the production of a feeling of warmth in her abdomen, and also in the feet and hands, which passed away in a few days; but this is the only immediate effect we have heretofore observed.

But the best results of the remedy were shown in the case of a young officer, sadly exhausted by residence in India and syphilitic neuralgia, the neuralgic attacks being accompanied with intense night sweats. The neuralgia and night sweats always yielded to the iodide of potassium, but the potash weakened him, and he was left prostrate for two or three weeks afterwards. On a late occasion he complained of a recurrence of his night sweats, with great debility and weariness; he was unable in the evening to take his place at the dinner-table, and was obliged instead to go to bed. Although hot and perspiring in bed, his skin could not bear the chill of the open window; and his own account of himself was, that his head ached, his back felt as if it were broken, and his legs refused to carry him. Under these circumstances, and seeing that he had no decided neuralgia, although complaining of three spots on the head, which were a little painful, but very tender to the touch, we hesitated to repeat the iodide of potassium, and prescribed the phosphorus pills, one to be taken three times a day, with a mixture of cinchona and sulphuric acid twice daily. The new remedy produced no apparent effect for a week, but, after that time, it acted like a charm. He felt generally strengthened; his previous sense of weariness disappeared, the night sweats ceased, he lost his susceptibility to taking cold, the tenderness of the scalp subsided, and he experienced an universal feeling of invigoration. He discovered also that the medicine, without knowing what it was, was in its action aphrodisiac. Comparing its influence on his health with the iodide of potassium, he remarked that he felt stronger after the use of the phosphorus; while the iodide, although it removed the immediate symptoms equally effectually, left him prostrate and weak.

Art. 68.—*Collodion Flexile in Herpes Zoster.*

(*The Practitioner*, August.)

The value of this application does not seem so well known as it should be. A great many persons now use it in the treatment of

erysipelas, in which of course it acts by excluding the air. But it is really of quite as much importance to effect this purpose thoroughly in shingles. The intolerable burning, which gives so much misery in severe cases, may be greatly reduced thereby; for if the painting with collodion be steadily applied from an early period, not only is the extent of vesication much limited, but of course all chance of exposure of a raw surface to the air is cut off. Very probably the ethereal solution of nitrate of silver would effect the same purpose.

Art. 69.—*On Molluscum, Rupia Simplex, Acute Eczema, or Eczema Rubrum.*

By William R. Basham, M.D., Physician to the Westminster Hospital.

(*British Medical Journal,* October 10.)

Dr. Basham recently directed the attention of the students at Westminster Hospital to three cases, one of molluscum, the other of rupia simplex, the third of eczema. Molluscum, he observed, was an affection of the skin not of very frequent occurrence, and from a popular belief of its contagious character, designated in the books as molluscum contagiosum. It is not, however, contagious, although it often happens that more than one individual in a family may exhibit the disorder. It appears, however, to arise more from the special character of the constitution, or structure of the sebaceous follicles, than from any agent capable of propagating it.

The treatment to be adopted in these cases is purely local. The tumours may be either enucleated, or a slight puncture made in the centre, the sebaceous matter squeezed out, and then touched with a stick of nitrate of silver, brought to a fine point. The caustic must not be too freely applied, as an unnecessary degree of irritation is excited, and more pain caused from the inflammation set up than is requisite for the eradication of the tumour.

The next case to which the attention of the students was directed, was a case of rupia simplex. It was in the person of a young woman, twenty-two or twenty-three years of age, having a worn and anxious expression of countenance, and whose recent history was that of poverty, want, and mental distress. Rupia, Dr. Basham observed, is a disease essentially of the ill-nourished and half-starved. Its characteristics in this case were well marked. Over the trunk of the body, but in less number than on the extremities, particularly the lower, were dispersed a number of dirty-looking patches or scabs, varying in size from a silver threepence to that of half-a-crown. The base of the scab or crust was surrounded by a margin of inflammatory redness. The crusts had a laminated appearance, and have been likened to the dirty ash-grey of an oyster-shell. When they fall off, the cuticle remains of a dusky red colour for some time, and in bad cases often ulcerating. These scabs or crusts originate in a circumscribed spot of redness, slightly elevated, and painful to the touch. In the centre of this inflamed spot, at first

was seen a minute vesicle, which rapidly enlarged by an irregular extension of its margin. Its colour at first, as this enlargement takes place, was pearly or milky, but it rapidly became purulent and concreted, and formed, by successive exudations, the laminæ of which the crust was composed. From the attrition of the clothes and dirt, this crust acquires the peculiar aspect which is the characteristic of this eruption. In one variety, the rupia prominens, the crusts acquire a cone-like shape; but excepting that the disease does not differ from the common form, rupia simplex, both are the offspring of indigence, intemperance, and dirt. As the causes which develope rupia are long and slow in operation, so it must be understood the means and remedies for its cure are equally dilatory, but not the less certain and effective.

The remedies in all such cases may be said to be embraced in the term nutrition, and all that aids nutrition, to which may be added cleanliness and personal comfort. There is no specific medicine for the treatment of rupia. Whatever remedies may be given should be those which minister to the nerve-force. It is thus found that a wholesome meat diet, porter or wine, as the case may need, accompanying it, is best aided by some of the preparations of cinchona and a mineral acid.

The next case was that of a man aged forty-two, a baker, which afforded a very good example and study of the characteristics of acute or inflammatory eczema. About a fortnight before admission he felt behind the ears a burning, tingling sensation, followed by an oozing of moisture, which increased the irritation considerably. In a day or two, the flexures of some of the joints, the armpits, and the elbow, became the seat of a diffused inflammatory redness, with a painful sense of burning; a number of small watery pimples pouring out a fluid which only increased the local irritation. The scalp became involved; and other patches, more diffused, appeared on the trunk, both before and behind, as well as on the thighs and in the hams, even down to the ankles. On admission, this was the extent and range of the disorder. The scalp was covered with a moist, half-dried exudation, matting the hairs together, and completely concealing their roots; the spaces behind the ears were red and moist, the skin looking highly inflamed; and minute vesicles could be seen in the more recent inflamed margin. The back of the neck was free, and the eruption did not appear so marked on the back and loins as on the chest and abdomen. The pubes, inguinal spaces, inside and outside the thighs, seemed to display the eruption in its most angry form. Here the cuticle was deeply red. moist with oozing fluid, and distressing the patient by the continuous sense of tingling, itching, and burning. The eruption on the chest and upper part of the abdomen, as well as on the outer part of the thighs, was covered with the half-dried serous exudation, and looked like honey in colour and consistence. The linen, whether of the bed or person of the patient, was sticky and stiff, and discoloured with the moisture oozing from the inflamed skin. There was not much constitutional disturbance, not more than the extremely irritable surface might account for. The tongue was pale and slightly furred; the pulse was not accelerated; and there was no obvious error in any of the excretions. The urine perhaps contained an excess of uric acid and urates.

This form of skin-affection is thus shown to be an inflammation in irregular spaces of the derma, with the development of numerous minute vesicles, with excoriations and irritation of the surface, the vesicular fluid concreting into crusts, and, as the inflammation subsides, the skin desquamating in bran-like scales till the healthy surface is completely restored. This *branny* condition of the cuticle is particularly seen in the scalp in this case, and continues long after the surface of the trunk and extremities has returned to a clean and healthy state.

The causes of acute inflammatory eczema in many cases may be traced to irritation of the skin by some special irritant. Consequently, it is seen often in those who work in an atmosphere loaded with dust, or whose clothes may become saturated or charged with the fine particles of the material with which they deal. Bakers, bricklayers, grocers, and millers are thus frequently the subject of these eczematous eruptions, either in a local or in a more general form. There must, however, be some constitutional predisposition to cutaneous disorder pre-existent, or it would be more frequently observed among the workpeople in the above trades.

The acute form of eczema, with proper management, especially such as is at command in a metropolitan hospital, is not of an obstinate character. Unlike the chronic form, its duration rarely exceeds from six to eight weeks.

The plan of treatment most suitable for these cases of acute eczema is the following. Cooling laxatives, effervescing salines, a simple non-stimulating diet, rest for a few days in bed, and the application of some soothing substance to allay the distressing irritation of the inflamed and excoriated skin. There are no specifics for this form of eczema. Arsenic is useless; it is useful in the chronic form. Alkalies are useful; but they should be given in a palatable form; and the carbonate of potash as an effervescent, with citric acid, may be given with advantage. The oxide of zinc and glycerine, slightly diluted and made of the consistency of cream, and painted over the inflamed skin with a feather or brush, conveys speedy relief. A warm or tepid, not a hot bath, should be given on alternate days. To remove the concreted mass from the scalp, linseed-meal poultices, made with a small addition of liquor potassæ to the water, and kept in contact with the scalp night and day, changing the poultice every six or eight hours, effect this purpose; or water-dressing, with a sufficient quantity of liquor potassæ to the water to help its solvent action on the crust, may be substituted.

During the progress of the convalescence, tonics may be desirable. The patient whose case is here related was ordered quinine and iron. He took Donovan's solution for a few days; but he needed the tonic more, and the arsenic was discontinued. About the seventh week of his stay in the hospital, every part of the body the seat of the severe eruption, except the scalp, had returned to perfectly clean and healthy appearance; so much so, that those who had seen the man on admission might with difficulty imagine that such fair clean skin could have been so recently disfigured. The scalp, however, was an exception to this complete restoration: here, even to the margin of the hair, was a branny state of the cuticle, a whitish scurfy peeling of the epidermis, implicating the root of the hairs, and requiring stimulating applications for its

removal. Lotions of the nitrate of silver, of ten grains to the ounce, were found sufficient; so that before he left the hospital, the tenth week from admission, this portion of the skin also presented the same favourable appearance as that of the trunk and extremities.

Art. 70.—*Treatment of Eczema.*

By W. H. Axford, M.B., Bridgewater.

(*British Medical Journal*, October 24.)

Apropos of Dr. Basham's case of acute eczema given above, the following case, which is of interest as being apparently due to suppressed menstruation, shows the great benefit to be derived in such acute cases from lotions containing gallic acid.

M. A. B., aged 18, was admitted as an out-patient at the Bridgewater Infirmary on September 21st. She had generally been a healthy girl, and had always been regular until the last period, which she missed a fortnight ago. A few days ago a rash, consisting of very minute pimples, appeared, commencing at the upper part of the chest, and spreading rapidly to the arms, the whole front of the body, and upper part of the thighs. The rash was a bright scarlet, and exuded a watery fluid, especially on the left arm; in some parts this fluid had dried, forming yellowish scabs. The itching was intense. There were some signs of indigestion. She was ordered a mixture, containing bismuth and hydrocyanic acid, three times a day, and a lotion.

℞ Sodæ sesquicarbonatis ℥ij; glycerini ℥ss; aquæ ℥viij. M. Fiat lotio sæpe applicanda.

Sept. 26th. Somewhat better; less itching; but still considerable exudation of watery fluid.

℞ Acidi gallici ℥j; glycerini ℥j; aquæ ℥viij. M. Fiat lotio sæpe applicanda.

The mixture was ordered to be repeated.

Sept. 28th. Much better; the itching was much less; and there was not nearly so much exudation. No part had yet, however, healed.

She did not again come to the Infirmary until October 3rd, when she appeared quite well, stating that the catamenia had appeared on September 29th, and that the rash immediately began rapidly to disappear.

Art. 71.—*Cases of Psoriasis.*

Under the care of Walter B. Cheadle, M.D., Assistant-Physician St. Mary's Hospital.

(*The Lancet*, October 17.)

The following cases illustrate very well three varieties of psoriasis, with their appropriate treatment, which in each instance was attended with a successful result.

Case 1. *Acute general psoriasis.*—The patient was a robust-looking man of twenty-seven, a chimney-sweep by trade, who, with a rare regard

for cleanliness, was in the habit of washing himself from head to foot every evening, after his day's work, in a strong solution of soda, for the purpose of thoroughly removing the soot. He was also a great beer drinker, and during the hot weather of June last had taken more than usual, sometimes as much as four or five quarts a day. About five months before he came to the hospital he first noticed the appearance of an eruption in a small patch, the size of a fourpenny-piece, which came on the right shin. It was scaly and perfectly dry, and not sore or tender in any way. This grew to the size of "the top of a teacup," and then the eruption made its appearance on the left leg, spread up the thighs, then to the arms, and lastly on the trunk. It was dry, scaly, red, and annular in form—as he expressed it, coming in "round rings, like the ringworm."

When first seen (on June 11th, 1868) the only parts of the body free from eruption were the neck, chest, belly, and back of the hands. On sides of the trunk and the arms, where the patches were tolerably distinct, their form was annular, and the rings in some cases two or three inches in diameter, the centre being occupied by healthy skin. On the legs the rings had coalesced into one uniform sheet, covering the greater part of the limb from the knees to the ankles. The eruption throughout was somewhat raised, of a bright-red colour, and covered with large white scales, which were easily detached and soft, but not friable. There were no vesicles nor papules, nor was the slightest sign of any exudation perceptible. No history of syphilis or hereditary tendency could be made out. He was ordered small doses of arsenic and iodide of potassium, and an ointment containing nitric oxide of mercury and creasote. When the man was seen again a week afterwards he was covered with eruption from head to foot, so that hardly a vestige of healthy skin could be perceived. The back of the hands, chest, and abdomen, which had been free before, were of a uniform scarlet colour, and covered with scales, but perfectly dry, and not tender. The scalp was filled with dry scurf, and the face red and rough. The gums and buccal mucous membrane were also very red, and on the latter there were superficial ulcerations along the line of the teeth. The skin felt excessively hot to the touch, and the man complained of a constant sensation of burning heat and itching. The temperature of the axilla was 100·4°; the pulse 108, soft and full; the tongue much coated, and bright-red along the edges.

The patient was at once admitted into the hospital, remaining under Dr. Cheadle's care, by the kind permission of Dr. Handfield Jones. A warm bath was given every night; after which the body was sponged over, while still moist, with a weak lotion of nitric acid and glycerine. This greatly relieved the burning and irritation. Zinc and-lead ointment was applied to the limbs; and small doses of carbonate and sulphate of magnesia, in quassia mixture, ordered to be taken three times a day; the bowels, which were very costive, having been previously freely opened by a compound jalap powder. In the course of four days the redness of the skin began to fade on the chest, the temperature went down to 99·5°, and the tongue became cleaner. The desquamation was very great, the bed being covered in the morning with scales shed during the night. On examining them with the microscope, no pus-globules

could be discovered. The case progressed rapidly, the eruption disappearing from circular portions, leaving annular patches, with all the characteristics of psoriasis. In three weeks there were only a few irregular patches scattered about the arms, back of the neck, waist, and feet. As the eruption disappeared, the skin resumed its former healthy appearance at once, without any of the thickening and soft waxy look so marked in the decline of eczema. This distinction, with the annular character of the eruption, its healing from the centre, and the absence of moisture, and of pus-globules, combined with the history of the case, seem decisive of its being an acute psoriasis.

The man became an out-patient at the end of three weeks, and when last seen, on the 20th of August, the skin was found perfectly clear, except on the chest, where were several well-marked circular patches of genuine chronic psoriasis.

Case 2. *Non-syphilitic psoriasis plantaris.*—This case is worthy of record, because it was one in which there was no suspicion of syphilitic taint or hereditary tendency; and also from the age of the patient, plantar psoriasis being of rare occurrence, except as one of the results of congenital syphilis in infants, or as a form of tertiary syphilis in adults. The patient was a girl of thirteen, of most respectable parents, and living in the country. The mother had three other children, all living, free from skin disease, and perfectly healthy. No affection of the kind was known to have existed in any of the family on either the father's or the mother's side. Eighteen months before coming to the hospital, in March, 1868, the girl noticed that her feet were hot and sore, which she attributed to chilblains. She described them as having been red, and having "dry bladders" on them, the skin peeling off; and that subsequently they were covered with white scales. They had been tender, cracked, and dry ever since. There had never been any exudation from the surface, nor any eruption on any other part of the body. She complained that the feet burned and ached very much, especially after walking, and at times itched severely. When seen, the soles of the feet and the sides for an inch above were of a uniform red. The margin of redness was a well-defined line along the sides of the feet, the height of a low slipper, extending in front to a little above the base of the toes. The plantar surface was cracked and fissured transversely, sparsely covered with white scales, and perfectly dry. There was much less thickening of the cuticle than in ordinary cases of the disease. The palms of the hands and rest of the body were entirely free. Under arsenic, and an ointment of the nitric oxide of mercury and creasote, the feet gradually regained their natural condition. At the end of seven weeks the fissures had gone, and only a few scales and a faint red blush remained. The itching had entirely ceased, and the only inconvenience felt by the patient was a slight amount of aching and burning of the soles after walking. In the course of another month she was discharged perfectly well.

Case 3. *Syphilitic psoriasis: impetigo of face: occurrence of nodes during treatment by iodide of potassium.*—J. P——, a healthy-looking fellow, aged twenty-two, became an out-patient in March last. He had general psoriasis; the patches were irregular and ill-defined, brownish in colour, somewhat tubercular, and the scales were small and scanty. He

nad had primary syphilis twelve months before. He was ordered five grains of iodide of potassium in infusion of quassia three times a day, and pitch ointment to the skin. At the end of a week the dose of iodide of potassium was increased to eight grains, which the patient continued to take for three weeks, by which time the psoriasis had almost entirely disappeared, but this was succeeded by some impetigo of the chin and lower part of the cheeks. The ointment was changed to a mild mercurial, and the iodide of potassium continued as before.

By the 30th April, seven weeks after he came under treatment, he was free from the skin disease; but a soft node, some two inches in length, appeared on the right shin. It was very tender, and had been so painful as to prevent sleep. The iodide of potassium was increased to ten grains, but the man did not attend the hospital again for a considerable time. When again seen, several days afterwards, he stated that the node had disappeared in a week or ten days, during which time he had continued to take the medicine.

The occurrence of nodes after an uninterrupted course, for seven weeks, of a drug which is supposed to be a specific in that form of syphilis, is an interesting fact in therapeutics.

Art. 72.—*Chronic Psoriasis.*

(*Bull. de Thérapeutique*, October 15.)

The following formula is much employed by MM. Hillairet and Lailler at the St. Louis, the patients at the same time using vapour baths:—Fresh lard fifty parts, sulphocyanide of mercury half a part.

Art. 73.—*On the Synchronism of Variola and Vaccinia.**

By Robert Pringle, M.D.

(*British Medical Journal*, August 22.)

In bringing this subject before the association, the author pleaded as his excuse the fact of its having fallen to his lot to see many cases of what, in the absence of another and better term, he called the synchronism of variola and vaccinia. After describing the circumstances under which the cases were met with, and which he considered to be the cause of their numbers, Dr. Pringle drew the following as his conclusions from the long array of 110 cases, which he had tabulated as having occurred in 1865, and which he laid before the meeting, viz.,—1. That vaccination may be successfully and beneficially performed at any time when variola is imminent, subsequent to the febrile and prior to the papular stage of that disease; and 2. That vaccination, where thus had recourse to, will reduce the rate of mortality from 40 or 50

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

per cent. to near 6½ per cent., as shown by the cases he had tabulated. Dr. Pringle further pointed out that, in all the cases of this synchronism which he had personally inspected, at the various stages of both diseases, he could not, though he searched for it, detect any modification in either disease; and the only modification which he witnessed, was, as said before, in the rate of mortality. The author also remarked that he had in the two years 1866-7 subsequent to that, viz., 1865, in which these cases were met with, seen several additional instances of this synchronism; and though he had hesitated to bring the subject before the profession, on the experience of a single year, yet, the two following tending only to substantiate his conclusions, he now felt he could do so, supported by the observations and cases of three years.

SECT. III.—FORENSIC MEDICINE.

ART. 74.—*On a Case of Death from the Introduction of Chyme into the Aerial Passages.*

By Dr. J. PARROT.

(*L'Union Médicale*, No. 91, 1868.)

Paul G——, born on March 14, 1868, of a syphilitic mother, was admitted into the *Hospice des Enfants Assisté*, and was there nourished by hand and carefully attended. It was brought under the notice of Dr. Parrot on several occasions in consequence of a general disorder characterised by pallor of the integument, flaccidity of the muscles, erythema on the buttocks, and a roughened skin. With the exception of some superficial cracks on the lips no other local affection was observed.

On the 18th of May, at two o'clock in the morning, the infant was found dead in its cradle. Some milk had been given a short time before, but nothing had been observed in the infant's state that preindicated this event.

The autopsy was made twelve hours after death.

The heart was firm and conical; the auricles contained some coagulated blood; on the right side the clot was large and fibrinous only at its posterior part, where it was infiltrated with a lemon-coloured serosity.

The lungs were of a pale grey colour, dry, very crepitant, and the seat of a slight alveolar emphysema over nearly the whole of their extent. When examined externally they appeared very healthy, and the upper lobes were really healthy; the inferior lobes, however, were much softened over a great extent of their posterior regions. The parenchyma was of a brownish grey colour, and was mottled by dark and almost black spots, which were caused by the veins being filled with semi-coagulated blood. The prolonged contact of the air did not modify this tint. The tissue was manifestly softened, and was torn on the slightest traction; at some points it was reduced to a thick pulp, and exhaled a very penetrating sour odour, like that of matter contained

in the stomach. The small adjacent bronchi were distended with a creamy material of a greyish yellow colour, in which was found a great number of cylindrical cells furnished with curved appendages and vibratile cilia, and also of oil globules, and vibriones animated by very rapid movements. The same bodies were found in the larger bronchi. The larynx and the trachea were not obstructed at any point.

The stomach at the time of its removal was extensively torn along its greater curvature, and a large cheesy mass floating in a creamy fluid was allowed to escape. This mass was very large; exhaled an intense butyric odour, and consisted of transparent gelatinous material in which no trace of structure could be discovered. The fluid was made up of oil globules similar to those found in the bronchi, of cells of cylindrical and pavement epithelium, some large spherical elements, nuclei, granular corpuscles, and vibriones.

In the gelatinous material were found some transparent débris of elements constituting the organic wall, and some true vascular formation.

The remaining abdominal viscera presented nothing worthy of notice.

The meninges at their most dependent parts were infiltrated with a small quantity of serosity. The cortical substance of the brain was of the colour of clear café-au-lait, and the medullary substance was of a violet colour. The consistence of the brain tissue was normal. Nothing especially worthy of mention was discovered on section, with the exception of some small white and opaque spots in the neighbourhood of the ependyma of the lateral ventricles. These were formed of granular bodies resulting from the infiltration with molecules of fat of the cells of the neuroglia. The vessels in the region of the ventricles presented in their exterior a mass of fatty granulations and also some spherical nuclei deprived of nucleoli, resembling lymph corpuscles.

Remarks.—The preceding particulars enable us to account for the mode of death of this infant, which at first seemed to be extraordinary.

The attention in this case is concentrated on the stomach and lungs, for from the present point of view the cerebral lesions are insignificant, and in fact similar to those found in the majority of infants who succumb shortly after birth, after having been subjected, as in the present instance, to alimentation insufficiently reparative.

Although extensively softened, the stomach presented no signs of inflammation, moreover the infant had never presented during life any symptom of disturbance of this organ. This lesion, therefore, was cadaveric and cannot be considered as the cause of death. It is to the chest that we have to look for the causes of the child's succumbing, and this, according to Dr. Parrot, is what happened: during sleep regurgitation took place, which threw into the air-passages a certain quantity of chymous material. This being fluid, penetrated into the small bronchi, and determined death by suffocation.

The pulmonary ramollissement was the result of the digestion of the parenchyma by material passed from the stomach. The organoleptic and microscopical characters of the contents of the bronchi remove all doubt on this point. The localised destruction of certain parts only of the inferior lobes is due to the fact that the gastric fluid, when introduced into the air-passages, obeys after death the laws of gravity, and

so gained the dependent parts, and then attacked the organic framework, where the bronchi were sufficiently small to be readily destroyed.

The following case, which occurred a short time after the preceding, presents some interest with regard to the action of gastric juice upon the pulmonary parenchyma.

The subject was a girl two years of age, who was attacked with croup and died suddenly.

The stomach was destroyed over nearly the whole extent of the greater curvature. The spleen was of a dark colour. The diaphragm presented at its left side a perforation of the size of a franc-piece, through which some of the fluid from the stomach had passed into the corresponding pleural cavity. The base of the lung was softened; the pleura remained intact.

In this case the stomach, which at the time of death contained food mixed with gastric juice, subsequently underwent, together with the diaphragm and the lower part of the left lung, a post-mortem digestion. The organic destruction setting out from the stomach, extended continuously and concentrically to the adjacent organs, and it is only by the gradual propagation of this progress, involving the parts nearest to the stomach, that the lung in the present case was attacked.

In the former case, on the contrary, the gastric ramollissement was rapidly limited, and it was by a long detour that the contents of the stomach passed to the lung, which organ was attacked not at its base, but at its central region.

Art. 75.—*Two Cases of Opium-Poisoning.*

Under the care of Dr. Radcliffe, of the Westminster Hospital.

(*The Lancet*, September 5.)

The interest of the following cases lies in the employment of belladonna as an antidote to opium. The notes were furnished by Mr. C. T. Winckworth, the house-physician:—

Ellen H——, aged thirty-nine, was admitted Aug. 11th, at 10.38 A.M.; having taken about three drachms of laudanum a quarter of an hour before. She was scarcely sensible. Skin very cold; pulse small and slightly increased in frequency; breathing shallow; pupils very much contracted, and fixed; was very sleepy, and said there was a mist before her eyes, and she could not see. Ordered an emetic of sulphate of zinc, after which she had strong coffee, and was walked about the ward.—2.30 P.M.: Turpentine and castor oil enema, mustard poultice to the pit of the stomach, and ten minims of tincture of belladonna every half-hour. To continue taking strong coffee.—6.30 P.M.: Pupils moderately dilated, and acting slowly. The mixture repeated every hour and a half for five doses. Bowels open in the evening. Was frequently aroused during the night by the nurse.

Aug. 12th.—Skin is warm, and she perspires very freely; pupils act properly; tongue dry and furred; is thirsty; throat dry; no appetite; bowels open; pulse 72 and soft.—2 P.M.: Repeat the mixture with gentian every four hours.—6 P.M.: Throat very dry; numbness and sensation of swelling in the hands and forearms. Ordered to omit the mixture. To have half a drachm of sal volatile and the same quantity of spirits of ether every four hours.

13th.—Slept pretty well last night; tongue a little cleaner; less thirst and dryness of the throat; no appetite; bowels open; pulse 90, soft; still numbness in fingers and arms; pupils regular.

14th.—Convalescent.

Martha G——, aged sixty, was admitted August 11th, at 11.15 A.M., suffering from the effects produced by sixpennyworth of laudanum, which she said was nearly equal to two tablespoonfuls; she subsequently told her attendants that she had taken it at 11.30 the previous evening. She was insensible, but could be aroused by shaking. Her skin was very cold; pupils contracted to a pin's point; pulse feeble; breathing very shallow, both chest and abdomen being almost immovable. Ordered an emetic of mustard and water, introduced by means of the stomach pump; and an enema of strong coffee. Was kept awake by being frequently shaken, and the sides of the chest flapped with cold cloths.—2 P.M.: Ordered an enema of turpentine and castor oil; a mustard poultice over the epigastric region; and ten minims of tincture of belladonna every half hour. To be kept awake by shaking, &c.

August 12th, 10 A.M.: Still very drowsy, but answers when spoken to. Skin warm; tongue dry and brown. She is thirsty; throat very dry. Bowels open once. Pulse 66, weak. Breathing less shallow, and chest moves more freely. Can see better than yesterday. Slight headache. Pupils slightly dilated after nineteen doses of belladonna. Repeat the mixture every two hours, with gentian.—9 P.M.: The mixture every four hours.

13th.—Tongue still coated; throat dry; no appetite; bowels not open; pulse 72, stronger; pupils act well. Says she feels much stronger and better.

14th.—Slept well last night. Skin warm; tongue moist and cleaner; throat less dry; she is not so thirsty; bowels open; appetite returned; no headache; pulse 72. Pupils regular, and act well. She is convalescent.

ART. 76.—*On Several Signs of Death supplied by the Ophthalmoscope.*

By M. BOUCHUT.

(*La Tribune Médicale*, No. 47, 1868.)

1. We are able either with the aid of the ophthalmoscope or by means of atropine to distinguish real from apparent death, and thus to guard against the danger of premature inhumations.

2. If death is but apparent, the cornea is translucent, the papilla of a rose red colour, and the fundus of the eye red and furrowed by the arteries and veins of the retina.

3. After death we may observe with the ophthalmoscope that the transparent cornea is wrinkled, and like in appearance to a piece of moistened window-glass, which prevents us from seeing clearly the objects behind it.

4. At the very instant of death, the choroid loses its red colour, and becomes pale, nacreous, or grey like tarnished lead.

5. With its change of colour after death the choroid acquires a pale tint similar to that of the papilla, so that the extremity of the optic

nerve being no longer made apparent by the red fundus, becomes almost invisible.

6. Although, after death, the papilla of the optic nerve is no longer recognisable by its colour, its place may still be indicated by the venous trunks which radiate from it as a common centre.

7. Death causes the central artery of the retina to disappear, by removing from it all the blood that it contains.

8. In consequence of death the veins of the retina are contracted, or partly disappear, and the blood arrested in their interior presents more or less extensive interruptions, which hinder us from following the vessels along the whole of their intra-ocular course.

9. When the subject is in a state of apparent death, a solution of atropine placed between the lids always produces at the end of a quarter of an hour a great dilatation of the pupil.

10. When death is real, the solution of atropine produces no effect upon the pupil, so that the absence of dilatation of the iris after application of this agent ought to be considered as a certain sign of death.

Art. 77.—*Poisoning by the Oil of Bitter Almonds.*

Reported by Mr. W. B. Shorts, House-Surgeon to the Royal South Hants Infirmary.

(*British Medical Journal*, August 15.)

The following case illustrates the efficacy of the rousing treatment, such as is recommended in poisoning by opium, in a case of poisoning by the oil of bitter almonds :—

G. G——, aged three, was brought to the Infirmary, June 15th, suffering from the effects of a poisonous dose of the essential oil of bitter almonds, which had been incautiously left within reach of the child. The following were the symptoms : Foaming at the mouth, difficulty of breathing, pupils dilated and fixed, pulse scarcely perceptible, surface of body very cold, and the general condition inanimate. An emetic was administered at once, and the child placed under a powerful cold douche bath, the water being especially dashed over the head and spine. In a few moments she commenced kicking and screaming, but relapsed into the former condition as soon as the douche was suspended. The treatment was accordingly continued for more than half an hour. The child was then removed from the bath, and gently galvanised by the electro-magnetic current. She still remained in a very drowsy condition, but was kept perfectly awake by slapping and shaking her when necessary; and at the end of three hours appeared quite recovered and rather lively. She was brought to the Infirmary again the next day, and was apparently little the worse for the poison, or the treatment she had undergone. According to the father's account, the child had swallowed nearly a tablespoonful of the essential oil.

Art. 78.—*Toxicological Action of Prussic Acid; Atropia as an Antidote.*

By M. Preyer.

(*The Practitioner*, August.)

M. W. Preyer has arrived at the following most important conclusions from a series of ingenious arguments and experiments. In comparatively moderate, but yet fatally poisonous doses, prussic acid acts by very suddenly and completely depriving the blood of its oxygen; the phenomena being only an exaggerated and intensified representation of what occurs when an animal is made to breathe unmixed hydrogen for some time. Supposing the poisoning to have been accomplished, then, by a comparatively moderate dose, resaturation of the blood with oxygen, if it can be quickly enough accomplished, will infallibly restore the animal to life. On the other hand, prussic acid, given in *very large* doses, paralyses the heart, and is absolutely fatal. Those cases in which there is apnœa, and the heart is beating, remain open for treatment. M. Preyer was led to believe that the true physiological antidote for prussic acid was an agent which (without producing any other important poisonous effects) would paralyze the peripheral branches of the vagus in the lungs and in the heart; and, on the other hand, stimulate the central nervous apparatus of respiration in such a manner as to produce rapid respirations. He now makes the very important announcement, that sulphate of atropia acts precisely in this way, and he has demonstrated on rabbits and guinea-pigs, that the subcutaneous injection of a very small dose of this agent, if performed pretty quickly after the injection of the prussic acid, is an *unfailing antidote*. Apparently he would recommend the injection of quite small doses (1-75th grain ?)

Art. 79.—*On the Mental Condition of Epileptics, and their Responsibility for Criminal Actions.*

By M. Legrand du Saulle.

(*Gazette des Hôpitaux*, No. 89 and 92, 1868.)

1. Attacks of epilepsy and epileptic vertigo react in a marked and easily recognisable manner upon the intellectual, moral, and emotional faculties.

2. The character and manners of epileptic subjects are fertile in strange anomalies, present very salient contrasts, and are characterized by sudden and unforeseen impulses.

3. Not all epileptics are mad. But in a great number of the subjects of this disease, called by Celsus *morbus sacer*, the harmony of the moral sentiments is broken, the character of the affections perverted, and the order of the sensations disturbed. Madness is indicated, but not necessarily acquired.

4. Marriage exercises an unfavourable influence upon the progress of epilepsy, and the disease may also be transmitted in this way.

5. Non-justifiable crime, when committed under the evident influence of an epileptic crisis, entails absolute irresponsibility.

6. If an epileptic commits an outrage when he is manifestly not suffering from a nervous attack, he is partially responsible; but ought to receive, after an examination of his mental condition, a much smaller punishment, and one proportioned in some way to the degree of moral resistance he is capable of exercising.

7. When a crime has been coolly calculated and carries its own explanation, the author is responsible, especially if the epileptic attacks are of rare occurrence, and have not yet interfered with the free play of the understanding.

8. When a crime altogether *unaccountable*, and entirely opposed to the antecedents of the accused, who has not been considered either as an epileptic or as a madman, happens to have been performed with extreme suddenness, it is necessary to make inquiries about the previous existence of nocturnal and unrecognised attacks of epilepsy.

9. The medical expert charged to observe the mental condition of an epileptic should depend upon the character and the progress of the delirious attacks, upon the physical and moral characters of the attacks, and upon the character of the acts performed during these attacks.

10. Civil documents proceeding from and consented to by epileptics when free from any nervous crises, and from any mental disturbance, ought most habitually to be considered as valid.

SECT. IV.—THERAPEUTICS.

ART. 80.—*On Anæsthetics.*

By Dr. MASON WARREN, M.D.

(*Surgical Observations with Cases*, 1866.)

"The change made in the practice of surgery by the discovery of the anæsthetic power of ether can scarcely be appreciated by those who have come on the stage since the introduction of this agent. It was in the city of Boston, a little more than twenty years since, that the full value of this discovery was first demonstrated and published; and it is truly remarkable, that at the present day, artificial anæsthesia is best attained by sulphuric ether, used in substantially the same manner as when it was first tried in surgical observations at Massachusetts General Hospital. While chloroform is acknowledged to be dangerous, and while the foreign medical journals contain frequent notices of death from the use of this potent agent, it is a striking fact, that out of the hundreds of thousands of cases of etherization, the first undoubted case of death from its action is yet to be recorded. It is not pretended by this statement to abjure the use of chloroform, which, in some cases, is certainly preferable to any known anæsthetic; being far more concentrated in form, more agreeable, and more active in administration, than any of the many substitutes which have been proposed for it. On

the battle-field, especially, its greater portability is likely always to secure the preference for it over safer but more bulky anæsthetics.

The first, and perhaps the most important application of ether is in producing unconsciousness of pain; and it is for this boon that the patient will ever be chiefly thankful. To the surgeon also, the non-infliction of pain is often a matter of the greatest moment, for he can now undertake a long and tedious dissection, or a delicate exploration of an acutely inflamed cavity, undisturbed by the involuntary movements of the patient. The power to abolish pain has also materially enlarged the domain of operative surgery, not only by diminishing the dread of common operations, and allowing of their more frequent performance, but also by admitting into the list of justifiable operations some whose severity would otherwise in most cases forbid even the thought of attempting.

The other great application of ether in surgery depends upon its power of relieving the voluntary muscles by inducing a state of the brain analogous to coma. In the deep sleep of complete etherization, the manipulation and reduction of fractures and dislocations, the diagnosis and treatment of anchyloses, the reduction of strangulated hernia, &c., are immensely facilitated. The question of its use in certain special departments of surgery will be noticed elsewhere.

This is not the place to dwell on the very important uses of ether in midwifery, and in painful or convulsive medical diseases; but of its inestimable value in the alleviation of suffering during the last moments of life, I cannot omit this passing notice.

About a year after the discovery of the anæsthetic power of ether, chloroform was introduced, and, from its fascinating qualities seemed likely to displace ether, which had the disadvantage of being disagreeable to the smell and taste, and objectionable under certain circumstances from its inflammability. Very soon, however, fatal accidents began to be caused by chloroform; many of them occurring where it was given for minor operations. The proportion of deaths has continued up to the present time, and may be estimated at about one a month for the last twenty years; which ratio seems scarcely reduced by the use of any care or ingenuity.

Dr. John C. Warren and myself introduced into practice, and used for about five years, concentrated chloric ether, prepared by distillation after a process recommended by Dr. A. A. Hayes. It had the advantage of being very agreeable to the taste, not inflammable, easily manageable, safe, and a good substitute for chloroform. Its liability to adulteration, and some accidents which subsequently occurred, probably from that cause, after its use became extensive through the country, led us to abandon the responsibility of recommending it, and to return to the use of sulphuric ether.

Ether was first administered by an apparatus. The use of this was inconvenient, especially with children, and led me to administer it in a simple sponge, which immediately took the place of the apparatus everywhere.

In the course of twenty years, as already stated, not a single death can be fairly attributed to the use of sulphuric ether. In the Massachusetts General Hospital alone it has been employed over twenty

thousand times, without a single unfavourable occurrence. In some cases, particularly in young persons and females, I have seen disagreeable and troublesome symptoms occur from prolonged etherization. From the great frequency of the use of artificial teeth, the following not unusual accidents may be mentioned. In one instance, after operating upon a lady under ether, for a tumour in the thigh, I found her in an apparently dying state; respiration having almost ceased, and the pulse being just perceptible. Passing my finger down the throat, in order to admit a current of air to the larynx, I discovered an entire upper set of artificial teeth closely forced down on the glottis. These being withdrawn, it was only after a long persistence in the use of the usual remedies employed to recover a person from drowning, that the regular course of respiration and circulation was restored. She then became violently delirious for a time, but recovered well. I have once or twice, in the course of etherization, found artificial teeth loose in the mouth; and now generally inspect it previously, when I have suspicion of their presence.

It will be observed that the supporters of chloroform lay much stress on the method of its administration by an instrument, or otherwise, in order to measure the quantity given, and proper admixture with atmospheric air, from the fear of dangerous consequences. No fear or precaution of this kind is to be apprehended or required in the use of ether. In fact, the more liberally it is poured on the sponge or towel or lint, the more rapid and perfect is the etherization,—the intermediate state of excitement being avoided,—and the quicker the patient expels it from the system after the operation. In children who resist violently, one or two screams so effectually empty the lungs of atmospheric air, which is at once replaced by the vapour of ether, that insensibility is almost immediate.

The importance of having the ether properly prepared and thoroughly washed, so as to free it from alcohol and other irritating substances, should be carefully looked to, otherwise the action of it is disagreeable at the time, highly irritating, and its subsequent unpleasant effects more protracted."

Art. 81.—*Contra-indications to the Use of Anæsthetics.*

By M. Gosselin.

(*Gaz. des Hôp.*, October 31; and *Medical Times and Gazette*, November 21.)

One of these, M. Gosselin observed in a recent clinical lecture, is the inveterate use of alcoholic drinks so common in the classes brought to the hospitals. In subjects of this kind who have passed their 50th year, anæsthetics should either be abstained from or employed with the greatest circumspection, so that the anæsthesia may not be too deep or too prolonged. Another still more important contra-indication is the state of stupor which immediately follows violent injuries. This, indeed, is self-evident; but the question arises as to how soon after the cessation of such stupor are anæsthetics admissible. After some of these great injuries, when all the known signs of such stupor have dis-

appeared, there may be a certain amount of latent (*larvée*) stupor which may yet deceive us. This is at present a very ill-determined matter, to which M. Gosselin is desirous of drawing the attention of surgeons. Amongst the injuries in which M. Gosselin thinks that the employment of anæsthetics is unadvisable, are recent dislocations, and especially those of the shoulder, in consequence of the serious lesions of important trunks of nerves which may be present. The objection does not hold good with regard to old dislocations, wherein anæsthetics are particularly indicated.

Art. 82.—*The Administration of Nitrous Oxide as an Anæsthetic.**

By J. T. Clover, F.R.C.S.

(*British Medical Journal*, August 22.)

After a brief history of the gas as an anæsthetic, Mr. Clover described his apparatus for administering it, consisting of a face-piece made of sheet-lead, so as to be easily moulded to the face, and edged with India-rubber tubing, so that the nose and mouth may be completely covered with an air-tight cap, obviating the necessity for pinching the nose. Two valves prevented the gas from being breathed a second time. When a patient breathed in a rapid and forcible manner, to prevent any air from being admitted by the falling of the cheek, a supplemental bag holding about 200 inches was connected by a stopcock to the face-piece. The anæsthesia might be prolonged through a nose-cap alone. It was well to avoid giving the gas after a full meal, or with tight dresses. Whilst fitting the mouth-piece, the patient should breathe air only by means of a stop cock contrived by Mr. Clover, and the gas should not be turned on until the patient breathed steadily. As long as he breathed calmly, the supplemental bag should be empty, but when he began to pant, the stopcock should be opened. The gas received into this bag was so readily yielded during inspiration, that no air was sucked under the face-pieee. When the breathing had become so calm as scarcely to raise the expiratory valve, the supplemental bag should be compressed at every fifth or sixth inspiration, and allowed to refill with fresh gas. Lividity after twenty or thirty seconds was no sign of anæsthesia. In about fifty seconds the expression altered, the eye became unsteady, the hands slightly convulsed; inhalation might be continued ten or fifteen seconds longer, unless respiration became very slow, or stopped, or the pulse very quick or unsteady. Sudden dilatation of the pupil should cause immediate removal of the gas. If general muscular rigidity did not come on during inhalation, it often did when the operation began, and then the breathing might cease for ten or fifteen seconds without alarm if the pulse could be felt. The next gasp of pure air produced immediate restoration; but the inhalation should be at once discontinued if the pulse threatened to stop. Slight hysteria some-

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

times supervened for a few minutes, but it never lasted so long as after chloroform. Mr. Clover had given nitrous oxide in 387 cases, in all of which the patients had been able to walk away after the operation. Only three cases of sickness had occurred. Two patients who took it well were subject to epilepsy. Whether it would supersede chloroform in long operations was exceedingly improbable; but for short operations, in rapidity of recovery and absence of unpleasant consequences, it contrasted favourably with that agent. In experiments on various animals, he had always noticed that respiration stopped before the circulation; and he was convinced that, in case of danger, artificial respiration was the proper remedy.

Art. 83.—*On the Anæsthetics of the Present Day.**

By A. Ernest Sansom, M.D., F.R.C.P.

(*British Medical Journal*, August 8.)

The author reviewed the anæsthetics now employed with reference to their special advantages in special cases and circumstances. The employment of nitrogen proved how that anæsthesia could be induced by the mere deprivation of oxygen. It induced the accumulation of carbonic acid in the blood, so that its administration was really equivalent to the administration of carbonic acid. Nitrous oxide had shown special advantages in cases of dentistry. The author considered that it acted chiefly by filling the lungs with a gas which could not sustain the normal processes of aëration, but he thought that it also had a special action on the blood. He considered that great care should be used in its employment, and it should not be given to any patients suffering from pulmonary, cardiac, or cerebral affections; it should certainly not be employed for any prolonged operation, but to the dental surgeon it was a great boon, inducing a rapid anæsthesia and being followed by an immediate recovery. It should only be trusted in skilled hands, and should then be used with caution. Inasmuch as both these agents induce their effects by the superinduction of an excess of carbonic acid in the blood, he recommended a renewed trial of this anæsthetic, which had been formerly employed with advantage. Briefly alluding to tetrachloride of carbon and bichloride of methylene, the author next turned to chloroform, the great danger of which was the large and unnecessary proportions which were administered. By a very large number of calculations, the author proved that by the common means adopted, atmospheres of from three to ten times the necessary strength were employed. He determined that the best diluent for chloroform is absolute alcohol; and if practitioners would use a mixture of equal parts of chloroform and alcohol, danger would be reduced to a minimum.

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

Art. 84.—*On the Therapeutical Action of Kinovic Acid.*

By Dr. Kerner.

(*Deutsche Klinik*, 1868. *Aerztliches Literaturblatt*, No. 6. 1868.)

1. The presence of kinovic acid is the predominant cause of the tonic properties of cinchona bark.

2. When given even in large doses it produces no cerebral congestion, symptoms of which, it is known, readily come on with continued large doses of the nitrogenous components of cinchona bark. Dr. Kerner's researches show that adults do not experience the slightest bad effects after taking daily from 15 to 20 grammes of kinovate of lime.

3. The kinovate of lime, as a bitter and tonic, is superior to most of the agents hitherto used as bitters.

4. The action of fresh prepared kinovic acid upon the intestinal secretions is strikingly perceptible; the tonic is at once absorbed, and causes an abatement of the peristaltic movement of the intestines. The acid has been administered in cases of severe dysentery with the most satisfactory results.

5. With chronic forms of nervous diarrhœa, both slight and obstinate, Drs. de Neufville and Wallach have seen frequent good results from the use of this remedy.

The following methods of administration are recommended by Dr. Kerner:—

(*a*). In the form of powder: 2·8 grammes of kinovate of lime with finely-powdered white sugar or phosphate of lime, to be taken in the form of a lozenge once or twice in the day; or from one-half to three drachms of the kinovate, with powdered phosphate of lime, to be taken every twenty-four or every thirty-six hours.

(*b*.) In the form of mixture: from two to six drachms of the kinovate of lime, to be rubbed up with some gum tragacanth and from five to eight ounces of water; into this mixture, whilst it is being well shaken, dilute phosphoric acid is to be added by drops until the chalk and the kinovic acid are separated in a finely divided condition.

Art. 85.—*Therapeutic Value of Belladonna in Reference to Diseases of the Bladder and Urethra.*

By Reginald Harrison, F.R.C.S., Assistant-Surgeon to the Royal Infirmary, and Lecturer on Anatomy at the School of Medicine.

(*Liverpool Medical and Surgical Reports*, October.)

As a topical application, Mr. Harrison has used belladonna with benefit in some of the more obstinate forms of stricture, especially those consequent on injuries of the urethra.

The most convenient way of applying it (he says) is with the oleum

theobromæ of the Pharmacopœia, which is sufficiently hard at ordinary temperatures to permit of its ready introduction into the urethra. The author generally recommends two grains of the extract of belladonna to be used in this way twice a day, in conjunction with the regular introduction of the metallic bougie in gradually increasing sizes; the belladonna should be persevered in for some time after the bougies have been discontinued.

Very great and permanent benefit has resulted from this plan of proceeding, and in cases where the bougie treatment *alone* had previously only effected but very temporary relief. Mr. Harrison adds that his observation is confirmed by others who have given this plan a trial. Administered internally, belladonna is one of the most valuable anodynes we possess.

The disorders of the urinary system in which the remedy is generally applicable, are those which may be classified under the generic term of "irritable bladder." Its use may be advantageously continued, in conjunction with other expedients, for the removal of any exciting causes that may be present, such as the dilatation of strictures, removal of calculi, and other sources of irritation.

There is a form of irritation not infrequently observed, both in males and females, more especially the latter, where there is great irritability, accompanied with the deposition in the urine of large quantities of epithelium. The symptoms sometimes resemble those of calculous disorders, but on introducing a sound, a roughened condition of the lining membrane is alone detected. These almost invariably do well under the influence of belladonna. The nocturnal incontinence observed in delicate children, in nearly all cases the results of a simply irritable bladder and nervous system, do well with small doses of atropine combined with general hygienic measures.

Mr. Harrison generally prescribes the extract of belladonna in grain doses, once or twice a day, in the form of pills; or the solution of atropine, $\frac{1}{80}$ of a grain to $\frac{1}{60}$, very gradually increased, until a slight degree of atropism—dryness of the throat, or dimness of vision—is produced. Beyond this it is undesirable to go. Dr. Anstie speaks very highly of the hypodermic administration of atropine in the first number of the *Practitioner*. He, at the same time, very properly points out the caution with which the remedy, in this form, should at all times be used.

Art. 86.—*Ipecacuanha in Emetic Doses as a Stimulant, Restorative, Eliminative, and Adjuvant, in various Cases of Disorder and Disease.**

By John Higginbottom, Esq., F.R.S.

(*British Medical Journal*, August 22.)

The author inferred that the interests and advancement of the profession could not fail to be greatly promoted by a long, careful, and

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

practical investigation of a single therapeutic agent. He was of opinion that emetics were much less used than formerly. Ipecacuanha, besides its specific properties as an emetic, expectorant, and diaphoretic, had other valuable properties which he believed had not been particularly noticed by the profession. He had constantly, for more than half a century, administered ipecacuanha in English cholera, fevers, erysipelas, neuralgia, periodical drunkenness, uterine hæmorrhage, complaints in old age, syncope, senilis, &c. The main efficacy of ipecacuanha is in stimulating and restoring the normal action of the capillary system.

Art. 87.—*On the Employment of Collodion for Limiting the Action of the Actual Cautery.*

By M. Voillemier.

(*Gazette des Hôpitaux*, No. 61, 1868.)

The following is the substance of a clinical lecture delivered at the Hôtel Dieu :—

The difficulty of limiting the action of red-hot iron, particularly when one wishes to apply it to very circumscribed parts, is well known to all surgeons. The more the extremity of the cauterizing instrument is sharpened or pointed, the greater necessity is there for its being surmounted by a thickened portion, which may serve as a reservoir for the amount of caloric indispensable for producing a deep eschar. But from this reservoir the caloric radiates over the parts adjacent to that which the surgeon proposes to attack, and causes burns of the first or second degree, which have a greater or less extent. This accident is of some importance. To it is due those pains which are felt by patients after every cauterization ; pains which are acute, lasting for several days, and having an intensity which is scarcely diminished by the continuous application of refrigerant lotions. After some days the epidermis is detached, leaving the true skin exposed, and causing an extensive superficial wound, which surrounds the point—often very limited—destroyed by the hot iron. These superficial wounds often persist for a long time, and are confounded with those which succeed the detachment of the eschar. Attempts have been made to remedy these inconveniences by surrounding the parts to which the iron is to be applied with wet lint or pieces of wood. These means, however, are insufficient, and very often interfere with the execution of the operation. The following is a simple and more certain proceeding, from which I have derived great benefit during the last five years :—

The parts upon which it is intended to apply the actual cautery having been carefully dried, the surgeon commences by brushing over them one or two layers of collodion. In the course of a few minutes this collodion becomes dry, and of a white colour. It is necessary to wait for this before acting; otherwise the vapour of ether which is thrown off would take fire on contact with the red-hot iron. This slight accident is of no consequence, blowing upon the vapour suffices to prevent

ignition, or to put out the flame, but as it causes some fright on the part of the patient, it is better to prevent it. Cauterization is then performed in the ordinary manner; the collodion is immediately destroyed at the parts touched by the cautery, the action of which is not diminished; but it remains on the neighbouring parts, where it forms a kind of artificial epidermis. This epidermis is very thin, but is composed of pure cellulose, which is a weaker conductor of heat than wood itself; and so efficaciously protects the tissues from the radiating caloric of the cautery.

After the cauterization, if the collodion be removed, the skin will be found pale and healthy. It is better, however, to allow it to remain, as its constrictive action, though slight, will serve to prevent to some extent an accumulation of fluid in the tissues around the burnt part.

It is useless to cover the parts with soft lint after the cauterization, as the patient feels little or no pain. This is what might be expected; the parts touched by the iron are disorganized and insensible; the adjacent skin is healthy, and has not been affected by the radiated heat.

This proceeding, useful when practised in cauterization of the joints, is still more so when applied in the region of the axilla, or about the anus, where the parts about the cauterized spots must be in close proximity to the hot iron. It will also render good service when the surgeon has occasion to apply heat to a deep cavity like the vagina. I have frequently covered the neck of the uterus with collodion before applying the hot iron, and after the removal of the speculum, the extremity of this instrument has been found closed by a diaphragm which was pierced in its centre by an opening indicating the circumscribed spot on which the cautery had acted.

Art. 88.—*Arsenic in Phthisis.*

By M. Hérard.

(*Medical Times and Gazette*, November 14.)

At the last meeting of the Académie de Médecine, M. Hérard read a report on a memoir presented by M. Moutard-Martin, "On the Value of Arsenic in the Treatment of Phthisis." The reporter observed that the question of the efficacy of arsenic in this disease had been frequently treated of, but that the observations hitherto published were defective in exactitude. Such a reproach cannot be directed against the present author, who, long accustomed to clinical practice, has taken care to furnish exact indications not only as to the nature, but the stage of the disease, and the particular form it exhibited. Moreover, he has detailed the effects of the arsenic treatment employed exclusively. Almost all the patients, after a few days' treatment, exhibit a marked improvement in their general condition. The appetite improves, the strength returns, the complexion is clearer, and the eye is more animated; and, at the end of three weeks or a month, flesh begins to be gained. The local malady undergoes less change, but

even this is sometimes sensibly modified. The favourable action of the arsenic is most observed in cases in which there is no acute fever or serious digestive disturbance. When there is intense febrile heat, whether continuous or remittent, and this is accompanied by much sweating, vomiting, and diarrhœa, and especially when the phthisis is acute, there is little or no amelioration, or this is not durable. The results have been found to be much more favourable among patients in private practice, who are placed in better hygienic conditions, than in hospital patients. The first appreciable effect of the administration of arsenic is the return of the appetite; whether this results from its direct action on the mucous membrane of the stomach, or from its more general operation as a tonic and neurosthenic. Another important effect it produces is that it moderates the oxidation of tissue, and thus efficaciously opposes denutrition. M. Lolliot, the most recent observer, finds that the daily administration of ten milligrammes of arsenious acid produces a diminution of temperature, and a very notable diminution in the amount of urea. The reporter is inclined to believe that arsenic may exert a direct action on the lung, as the respiratory mucous membrane is one of the channels of its elimination, while it proves useful in chronic bronchitis and asthma, and is resorted to by the peasantry in the Tyrol and elsewhere to facilitate their respiration during the ascent of high mountains. The arsenious acid should be administered in the form of pills or granules, each containing one milligramme, seven or eight of which may be taken at first per diem, rapidly increasing the number to ten or fifteen, and, very rarely, even to two centigrammes. By taking care so to divide the doses as not to give more than two pills at a time, and that when possible before meals, all accidents are avoided. It is only very rarely that it becomes necessary to suspend the medicine or diminish its dose on account of slight temporary gastro-intestinal disturbance. Still it is necessary, as a matter of precaution, from time to time to suspend the treatment. This important memoir, the reporter observes in conclusion, will greatly contribute to establish the entire harmlessness of this substance when properly administered, as well as its indubitable efficacy.

Art. 89.—*Alcohol as a Dressing to Surgical and Traumatic Wounds.*

By W. F. McNutt, M.D., M.R.C.S.E., L.R.C.P.E., &c., late Surgeon U.S.N., Visiting Physician to S. F. Dispensary, &c.

(*California Medical Gazette*, July.)

The advantages claimed for alcohol as a dressing to surgical and traumatic wounds, are, that in recent wounds it coagulates the soluble albumen on the surface of the wound, corrugates the tissues, and contracts the small vessels, thereby preventing the accumulation of blood or serum between flaps or the edges of wounds, which would necessarily prevent primary union.

Applied as a dressing to granulating wounds, it acts as a local stimulant, prevents largely the formation of pus, lessens the chances of the patient's having pyæmia, is an excellent disinfectant, and possesses the advantage of being a stimulant to the general system.

Art. 90.—*On the Limits of Alcoholic Stimulation in Acute Disease.**

By W. T. Gairdner, M.D.

(*British Medical Journal*, August 22.)

The purpose of this paper was to recommend a very much lower scale of administration of wine and spirits than has been usual of late years in acute disease. The author especially condemned the practice, and also the theoretical views leading to the practice, of the late Dr. Todd. He explained, in answer to certain criticisms, that this discussion involved no disrespect to the memory of a justly distinguished physician; but that the views adopted by Dr. Todd had been so strongly maintained, and so largely influential, as to make it absolutely necessary to bring them under review in any general statements upon the subject. Dr. Gairdner hoped that the pupils of Dr. Todd present at the meeting would correct him if he, in any degree, overstated or misstated what Dr. Todd's opinions and practices were. The author then alluded at considerable length to the evidence already in part published, and now further extended, that typhus fever could be treated, not only safely, but with a diminished rate of mortality, when stimulants are used very sparingly, and (in the majority of cases) altogether withheld. He did not, however, argue for the disuse of stimulants as remedies, but for their administration upon a much lower scale, and with a quite different object in view from Dr. Todd and others, who had advocated very high doses. The arguments advanced in this part of the communication had necessarily to be stated in a very condensed form, and indeed the paper as written, with the details of evidence, will, we believe, be published at no distant date; so that we shall, in the meantime, best fulfil the object in view by giving insertion to the following brief concluding statement. The author, after dealing with the case of typhus fever, and extending the argument to acute disease in general, contended that the fair analogies deducible from the facts, and the gradually and insensibly acquired experience gained from watching individual cases of general acute disease, concur in rendering probable most of the following inferences:—

1. The importance of proper nourishment and sustenance in febrile cases is very great; and nothing can be worse than the old, and now happily exploded system of depletion and starvation. But it is not less an error to conceive of alcoholic stimulation as a proper substitute, in such cases, for ordinary food. Milk is the normal food of most persons

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

in acute disease; and there are very few persons, even in severe fevers, who cannot receive it to the full extent of their powers of assimilation; but most of the other simpler elements of an ordinary diet may be employed with advantage in particular cases. Beef-tea (so much favoured by Dr. Todd, in conjunction with alcohol) is of very inferior nutritive value, and therefore of altogether secondary importance to milk; and further, beef-tea very often disagrees with the stomach, when milk and farinacea can be freely taken. In enteric cases, beef-tea has been found occasionally to increase the diarrhœa, and it is usually to be avoided, or very cautiously given, on that account.

2. The proper mode of administering food in cases of febrile disease is to imitate, as closely as the condition of the patient admits, the usual practice in health; and most patients, even in severe fevers, retain so much of the habits and functions of health as to enable them to digest a good deal of simple food, conveyed into the stomach at proper intervals, and with sufficient intervals of rest to allow of a return of the desire for food in some degree before again giving it. To give brandy and beef-tea every hour or half-hour, and to continue this practice for days and nights together, even wakening up the patient (as is recommended by Dr. Todd) in order to give him his food and stimulant, is the surest of all ways to destroy whatever remains of natural appetite, and to derange altogether the already much weakened function of assimilation. In a few almost desperate cases, where the power of swallowing is nearly lost, it may be advisable to give food at much more frequent intervals during waking hours than in other cases; but rarely, if ever, to disturb the patient when asleep.

3. The proper use of alcoholic stimulants in cases of acute disease, is nearly the same as in other cases, or in comparative health; viz., to quicken and develope the appetite for real food, and the power of assimilating it. The proper and normal time, therefore, for giving these stimulants in fevers is *along with the food, i.e.*, at the *regular* meal times, and *not* during the intervals; except in cases where the nervous system is much disordered, and where a moderate dose of the stronger stimulants may sometimes be of great use in procuring sleep.

4. The proper dose of alcoholic stimulant, and also the proper kind of stimulant, to give in each case, is subject to considerations derived much more from the age, sex, and previous habits of the patient, than from the severity or character of the fever. It is an error to suppose that patients affected with very severe symptoms of acute disease are capable of tolerating indefinitely greater amounts of alcoholic liquors than can be given in milder cases, or even to the same persons in health. It is even probable that, in some cases, the susceptibility to over-stimulation is greater in fevers than it is in health. At all events, it is usually a practical error to carry stimulation much beyond the line above generally indicated.

5. In most cases of young persons, and in very many adults not accustomed to the daily or frequent use of alcoholic liquors, these ought not to be given in quantity, or even at all, without the most clear evidence of their being really required. The effect of each dose should be carefully watched, and *it is almost always safer to withdraw the stimulant entirely for a period of hours, than to run the risk of over-stimu-*

lation. It is almost certain, from facts already observed, that, in young persons, the mortality of fevers is greatly increased by the *continuous* administration of alcoholic stimulants, even when the more striking or obvious symptoms of over-stimulation do not become apparent.

6. The effect of stimulants moderately and judiciously used, in certain critical states of acute disease, is to restore and refresh the patient, to favour natural sleep, to lower the rate of the pulse, to quicken the appetite, and increase the power of assimilating food. The effect of stimulants continuously or immoderately given is to destroy the appetite for food, to produce torpor, to give rise to more or less profuse sweating, to dry the tongue, to prolong the febrile debility, and to protract the crisis. There is reason to think that in typhus fever the normal crisis may be delayed for several days by the constant administration of brandy, after the manner recommended by Dr. Todd.

7. In the self-limited fevers, in which the phenomena of the crisis are well known, and in which the course of the disease may be easily defined and anticipated, it is usually requisite to be very sparing of stimulants in what may be termed normal cases, because in these the disease is to be recognised as running a definite course; while any considerable excess has a tendency to convert the case into an abnormal one, and to postpone the crisis. It has already been sufficiently indicated that, in the opinion of the author of this communication, alcoholic stimulants rank with drugs and medicines rather than with food. The same minute knowledge of the course of fevers which induces a well-educated modern practitioner to abstain from constantly drugging his patient, will also, in most cases, lead him to abstain from stimulation. And on the whole, it may be confidently anticipated as a result of improved consideration given to the subject, that the profuse and continuous administration of alcoholic stimulants, with a view to alimentation in acute disease, will ere long be abandoned as inconsistent with an enlightened physiology and a sound practice. While stimulants will continue to be prescribed to the sick, on the same principles and for the same ends as causes them frequently to be taken with refreshing and beneficial results in comparative health, their function in acute disease will more and more come to be recognised as a strictly limited one; so that continuous administration, or administration carried out to such doses as twenty-four, thirty-six, or forty-eight ounces, in the twenty-four hours, will be abandoned, as involving an error in principle, and serious danger to life in actual practice.

8. A subordinate, though still a very important consideration bearing upon such profuse and continuous stimulation as is above referred to, is that very liberal doses of wine and spirits, given habitually under medical advice, tend to give a wrong bias to public opinion; and (even apart from the grave moral consequences arising from the abuse of alcoholic liquors) tend to involve the whole medical practice of the country in a system of unnecessary, and therefore wasteful expenditure. It is as nearly as possible a demonstrated fact, that much of what is spent in wines and spirits for the sick in hospitals (and, therefore, probably also in private practice) is unnecessarily, if not injuriously spent. The more exact evidence of this statement is deducible from the observation of typhus fever; but there is reason to believe that what is true of

typhus fever in this respect may with almost equal confidence be affirmed of most other acute diseases. At all events, typhus fever, as it occurs in Glasgow, almost always among the poor, and often among the most ill-nourished, debilitated, and dissipated classes, is the very type of a disease which would appear to require the highest doses, and the most frequent and liberal administration, of alcoholic stimulants. Yet it has been clearly shewn that typhus fever in Glasgow may be treated, *with a diminished mortality*, with the aid simply of milk-diet and careful nursing; alcoholic stimulation being deliberately maintained upon a scale so low as to make it quite an exceptional, and therefore purely therapeutic agent. In the City of Glasgow Fever Hospital, the careful and most scrupulously watched experiments of Dr. J. B. Russell* have led, almost insensibly and without any fixed plan, but *with an increased success as regards results*, to lower from year to year the scale of stimulation *on the whole*, until last year the calculated amount of absolute alcohol administered in the form of wines and spirits to each patient, on an average, during each day of the treatment, was less than *one-sixth of an ounce* (0·1630 ounce); and the expense of this quantity was little more than three farthings, while the entire bill for wines and spirits consumed during a year in which 969 cases of febrile disease (mostly typhus) were under treatment, was 34*l.* 5*s.* 6*d.* The mortality of typhus (including all the cases admitted moribund) during the same period, was, in this hospital, only 9·05 per cent.; being the lowest ratio of mortality, I suspect, that has ever been attained in the treatment of so large a number as nearly a thousand cases, accurately distinguished as genuine typhus.

Dr. Anstie considered the cases quoted from Dr. Todd's practice exceptional. He denied that Dr. Todd's pupils used alcohol very largely in all cases. The action of alcohol as a food was proved by temperature, by the effects of alcohol in delirium, and by its diminished excretion in the urine. It saved vital force. Cases varied very much in their requirements for alcohol.

Dr. Bateman stated that alcohol, in conjunction with raw meat, had been proved to have been a valuable food in advanced phthisis.

Dr. Fleming said that alcohol was favourable so far as it favoured assimilation; but that it was sometimes a local irritant to the gastric mucous membrane.

Dr. Henry Kennedy said that alcohol, as alcohol, was never given but in the form of either whisky or wine. He denied that maculated typhus was the same disease in Dublin, Glasgow, and London. In Dublin, extreme stimulation is not practised. Wine is a complicated fluid, composed of elements, all of which are useful to the frame; and this utility is both stimulant and nutritive. Statistics were very unsatisfactory as to the giving of stimulants; and in spite of Dr. Gairdner's statistics, wine is often useful in children.

Dr. Moore (Dublin) treated each case on its own merits, as each case

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* "A Clinical Study of Stimulation in Typhus (Glasgow: 1867); and Third Annual Report of the City of Glasgow Fever Hospital, 1868." The former of these papers is a most elaborate inquiry into the whole subject.

differed in its requirements. Delirium very early in typhus was a formidable symptom, and demanded increased stimulation.

Dr. Stokes said the real question was, how we might best treat fever in this or that epidemic, as fever varied at different times in its effects with remedies. Was wine useful, and under what circumstances was it useful? was the main question for physicians. We did not know how to explain the action of any remedy; but, by analogy, as fever was a disease of periodicity, it was natural to suppose it was the effect of some poison which would be eliminated in a certain time, during which the patient would be liable to various modes of death, as from asthenia, complications of internal organs, &c. We could not cure fever; all we could do was to try and obviate the tendency to death. The main point was to know when to add or to diminish stimulants. Many other foods, as well as wine, were useful in obviating this tendency to death.

Mr. Steele (Liverpool) said that stimulants were not remedies for fever. Sir D. Corrigan's rule was a good one: "Discover the chief lesion: if this be vascular, stimulate; if it be of the nervous centres, stimulation can do no good, unless sleep be first obtained." In the epidemic of 1849 at Liverpool, the mortality was great, and stimulation was not much used; but many cases recovered without any medical treatment.

Dr. T. K. Chambers had two rules: 1, where there is delirium, generally give stimulants; 2, where wine helps assimilation, give it.

Dr. Ogle (Derby) gave stimulants when the tongue was furred and sordes appeared on the teeth, and generally whenever there was delirium.

Dr. Haughton stated that in the Longford Infirmary no stimulants were given.

Dr. Gairdner, in reply, stated that he was no bigot on this question. He admitted that epidemics varied in intensity; but denied Dr. Kennedy's statement, that typhus was a different disease in various parts.

Art. 91.—*Carbolic Acid as a Remedial Agent.*

By W. Kempster, M.D., Utica, N.Y.

(*American Journal of the Medical Sciences*, July.)

The first application of this agent, under Dr. Kempster's own observation, occurred in a case of catarrh, where the discharge was profuse, offensive, and consequently very annoying to the patient. Various remedies had been previously tried, without success. Hoping to derive advantage from its properties as a disinfectant, it was administered to the patient by inhalation, using one grain to an ounce of water, and conveyed the liquid to the affected parts by means of a steam spray-producer. The effect surpassed his most sanguine expectation. It not only relieved the fetor, but in the course of two or three inhalations changed the character of the discharge, and the patient recovered rapidly.

This induced a trial in a second case, not so serious as the first, but

still severe, and the result was equally satisfactory, the symptoms all disappearing in the course of four weeks. After the first few inhalations, the patients were instructed in the use of the spray-producing apparatus, furnished with a bottle of the solution (one grain to the ounce), and directed to inhale the vapour for ten minutes at a time, both morning and evening; enjoining upon them not leave a warm atmosphere for half an hour after each inhalation.

It is used at the present time in the treatment of ozæna, nasal polypi, and diseases of the nasal passages in which there is an offensive discharge. Even if it exerted no curative action, its power to correct fetor would be a great recommendation; but this is not all, it stimulates the ulcerated surface to a healthy action, promotes normal granulation, and thus assists in the curative process. If a solution of one grain of the acid to an ounce of water does not seem to meet the indication, the quantity may be increased to five grains, or even more; but it is better to begin with a mild solution, gradually increasing the strength until the desired effect is obtained.

Dr. Kempster's next use of the acid was in a case of scarlatina, where the breath was particularly obnoxious, owing to an ulcerated condition of the throat. A gargle of two grains of the acid to an ounce of water relieved the fetor at once, and apparently proved beneficial. No other gargle or application to the throat was used.

It would seem to be appropriate in cases of diphtheria, a strong solution of the acid being used for a local medicament; its power to correct the foul breath would be an indication for its use, and its astringent and stimulating properties might prove beneficial. In cases of common sore throat (simple tonsillitis) it is found to answer admirably, with the advantage over the ordinary potassa gargles of relieving the "bad taste" and foul breath.

In the State Lunatic Asylum at Utica, it is successfully used to relieve cases of sluggishness of the bowels, accompanied by offensive breath. The dose is a drachm of a solution of one grain to the ounce (which is the house standard). A striking exemplification of the efficacy of this remedy occurred in the case of a melancholic patient admitted to this asylum. He had for a number of years suffered from attacks of dyspepsia, accompanied with acid eructations and the formation of gas. Latterly these symptoms became continuous. He complained of intense heat, and pain in the stomach; stated that the eructation of fetid gas had become unbearable; and the same smell emanated from the cutaneous surface, so that it was offensive to every one in the room. He was at once put into a warm bath, then thoroughly washed with a solution of the acid (gr. v to the ounce). Internally two drachms of the standard solution were given three times daily for two days. At the end of this time the breath was sweet, and no unpleasant exhalation from the skin was perceptible. He was also relieved from the painful distension produced by the formation of gas in the stomach and bowels. Whenever he feels the approach of this difficulty, two or three doses of the house preparation relieve him at once from this unpleasant and painful complication.

Yeasty stomach, sometimes consequent upon a meal of rich food, which produces flatulence and expulsion of gas, with a tendency to re-

gurgitation, is usually relieved by a drachm or two of the solution above mentioned; this checks the fermentative process. The power it possesses to arrest fermentation would be an indication for its employment in sarcina. Diarrhœa produced by eating unripe fruit or other articles which promote fermentation is speedily relieved by combining a drachm or two of the solution with the usual remedies. As a dentifrice, commingled with myrrh or some aromatic, it removes the odour arising from carious teeth.

As an external application, the acid possesses valuable properties. Dr. Kempster has seen great benefit derived from its use in the treatment of bedsores. In one case, where there was a gangrenous tendency with extensive sloughing, and a devitalized condition of the surrounding tissue, a solution of fifteen grains to the ounce cleaned the surface of the ulcer at once, and stimulated normal granulations, which led to a rapid healing of the wound. Where there is a tendency to the formation of bedsores, sponging the parts with a solution of the above strength seems to operate beneficially.

An ulcer situated between the cheek and alveolar process of the left malar bone, discharging a thin sanious pus, was syringed out with a solution of the strength last mentioned. The pus became laudable, the discharge less in quantity, and the wound healed rapidly.

One of Dr. Kempster's assistants punctured his finger at a *post-mortem* examination. Forty-eight hours thereafter the wound became an ill-conditioned ulcer with an inflamed base, the redness extending some distance beyond; and the course of the lymphatics could be traced above the wrist. At Dr. Kempster's suggestion he applied the crystallized acid, removing it by a stream of cold water after a slight eschar had been produced. It changed the condition of the ulcer at once, which without further treatment healed.

A patient applied to the author for something to relieve the "burning heat" in her arm. He found it to present an appearance like that which precedes superficial erysipelas, to attacks of which she was subject. A cloth wet with a two-grain solution was applied; it relieved the heat at once, and the following morning all symptoms had disappeared.

An unguent made of five grains of the acid to an ounce of simple cerate corrects the odour attendant on cancerous discharges, and it is also recommended for overcoming fetid perspiration from the axillæ or feet. A stronger unguent—ten grains to the ounce, or what is preferable, a glycerolate of this strength—destroys the Acarus scabiei, Pediculi capitis, *et id genus omne*.

As a remedial agent in certain forms of skin disease it seems to possess decided advantages. A patient applied for something to relieve a disordered condition of the scalp, which had existed for some time. It proved to be a well-marked case of Tinea capitis in an advanced stage. The crusts had cracked open, with a straight smooth fracture, presenting a shining floor, looking as though the scalp had opened and exposed the cranial bones. There were several of these cracks, measuring from a half inch to two inches in length, the principal ones occupying a position over the region of the anterior fontanelle, and extending several inches in each direction. Other crusts had formed over the temporal

and occipital regions. In order that the acid might be effectually tried' the hair was cut short, and the entire scalp washed with a solution of the acid (two grains to the ounce) four times daily The subsidence of the disease was marked; those crusts in process of formation were checked, and the dry grayish crusts already formed, with those cracked open, were speedily removed. After the wash had been continued for one week, a glycerolate of carbolic acid* (strength five grains to the ounce) was applied, which possesses the advantage of being a more permanent preparation. The treatment was commenced January 7th, and on January 28th the disease had disappeared. No other treatment, either internal or local, was employed. One other case has been mentioned to the author, which was even more severe than this, and in which various modes of treatment had been employed without arresting its progress. The treatment mentioned above was resorted to, with an immediate abatement of symptoms and rapid recovery.

As an injection for gonorrhœa it has proved itself superior to the ordinary remedies and is less painful; the solution used being two to five grains to the ounce. The crystallized acid would seem to be indicated in the treatment of syphilitic ulcers, but upon this Dr. Kempster cannot speak from observation.

Art. 92.—*Auscultatory Percussion.*

By Samuel Fenwick, M.D., M.R.C.P.

(Morbid States of the Stomach and Duodenum.)

"Auscultatory percussion," Dr. Fenwick writes, "is by far the best mode of defining the extent and position of the stomach. I have been in the habit of using this means of examination for many years, and was not aware that it had been previously described; but the following extract from Dr. Aitken's 'Practice of Medicine' shows that it has been applied to other organs:†—'A solid cedar cylinder, six inches in length, and one inch in diameter, cut in the direction of the fibres, and with an ear-piece attached, is applied to the centre of the præcordial region, while the ear is applied to the other end; percussion is then made by another person from the point near where the cylinder is applied towards the limits of the heart in every direction. So long as percussion is made over the body of the heart a distinct shock is felt directly in the ear; but as soon as the limits of the heart are passed this sharp shock immediately ceases, even in passing from one solid organ to another in contact with it, as from the heart to the liver.'—*Drs. Camman and Clark.*

"The manner in which I employ 'auscultatory percussion' to the stomach is as follows:—The patient being laid on his left side, so that the gas contained in the stomach may rise to the pyloric region, the

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* The odour of the acid can be overcome by the addition of a few drops of oil of lemon.

† Aitken's "Science and Practice of Medicine," vol. ii. p. 706.

cup-shaped end of a 'Camman's Stethoscope' is applied to a part in the epigastrium, where, by percussion, I have ascertained that the tympanitic sound exists. I then strike the epigastrium sharply with the fingers, commencing close to the point at which the stethoscope is placed, and mark with ink the line at which the shock of the blow ceases to be felt directly in the ears. By moving the patient, so that he lies first on the back and afterwards on the right side, the gas is made to distend each region of the stomach in turn, and so the outline of the whole organ is completed. There is a chance of error if the stethoscope be placed over a dilated colon instead of the stomach; but when there is reason to suspect that this is the case, the patient should be examined before food, and the boundaries of the stomach having been marked out, the examination should be repeated when the organ is in a state of distension."

Art. 93.—*On the Value of the Thermometer as an Aid to the Physician.*

By W. Ainslie Hollis, M.B.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

The investigations which form the groundwork of this paper included an examination of more than sixty cases of phthisis, and a still larger number of other cases, as diabetes, disease of the heart, aneurism, typhoid and typhus fevers, pneumonia, bronchitis, pleuritis, erysipelas, scarlatina, phlebitis, &c., and Mr. Hollis establishes the following proposition from his researches, namely, that "all local disorders, whether organic or functional, have a tendency to modify the thermometric ranges of the body, either by producing local variations of temperature, or by affecting those of the system at large." He then draws up in two tables the causes which tend to lower, and those which tend to raise the temperature of the body. Among the causes leading to diminished temperature are evacuations of various kinds, as for instance, diarrhœa and looseness of the bowels, but when this diarrhœa is caused by ulceration of the intestines, as in typhoid fever, the temperature is not diminished, but is raised. Perspiration and hæmorrhage also tend to diminish the temperature, and the same effect is produced by blisters and other counter-irritants. It is stated that the favourable action of blisters in acute rheumatism may be explained in this view. Deficient aëration of the blood, from whatever cause, will also diminish the temperature of the body. On the other hand, the temperature is raised in many acute and febrile diseases, but still the height of the thermometer in a case of fever is no criterion, *per se*, of the severity of the attack, for the temperature may be very high in a favourable case, and much lower than that point in a fatal one. The rapid degeneration or destruction of tissue such as occurs in certain inflammations, and in tuberculosis, carcinoma, and ulceration, also tends to increase the temperature. On the whole, Mr. Hollis arrives at the conclusion that

thermometric registrations, although valuable in themselves, do not supersede or lessen the value of careful observations of the general symptoms of disease, and that the real value to be assigned to any given temperature must depend upon a due consideration of the processes which have caused it.

Art. 94.—*On the Relative Variations in the Temperature of Paralysed and Healthy Limbs.*

By M. R. Lepine.

(*Gazette Médicale*, No. 35, 1868.)

1. By placing two limbs, one healthy and the other paralysed, of an hemiplegic patient in certain determined conditions (and identically the same for both), very marked differences may be observed in their relative temperature. For instance, one of the limbs may become alternately warmer or colder than that of the opposite side.

2. In recent hemiplegia the paralysed limb, which is normally warmer than the sound one, *may become colder* if both limbs are submitted to a certain degree of chilling; if this degree (which seems to bear a relation to the degree of the vaso-motor paralysis) be exceeded, the paralysed limb is chilled less than the sound one.

3. In very long standing hemiplegia with coldness of the paralysed limb, the latter becomes relatively warmer than the sound limb, when both are submitted to a certain degree of chilling; the paralysed limb generally remains colder than the healthy one when both are heated.

The temperature of a limb, the vaso-motor nerves of which do not perform their functions normally, does not seem then to be so susceptible or presenting such considerable deviations either upwards or downwards as that of the healthy limb. It seems possible to account in a general way for the relative thermic variations of the two limbs, by admitting that the vaso-motor actions necessary for adaptation of the temperature of the limb to the surrounding medium, are on the paralysed side produced more *slowly* and *less completely*.

Art. 95.—*On the Therapeutical Application of Glycerine in Gynæcological Practice.*

By Dr. Fürst.

(*Wiener Med. Wochenschrift*, 26, 1868. *Schmidt's Jahrbücher*, No. 7, 1868.)

According to the experience of Dr. Fürst and also that of Dr. Sims, the beneficial effects of glycerine applied locally in cases of disease of the female sexual organs, are due to the fact that it sets up through osmosis a capillary drainage, and so produces uterine depletion. It is thus indicated in cases of general hypertrophy of the uterine organs,

or when there is intumescence of one or other wall of the womb causing some form of uterine deviation, or again in the various forms of ulceration of the os uteri and in artificial lesions of the genital apparatus. It is applied in the following manner: a plug of clean cotton wool is saturated with one drachm of glycerine, and is placed in the vagina at bedtime, behind the curve in cases of retroflexion, and in front of it when there is a deviation forwards.

The following are the results of Dr. Fürst's trials :—

1. When the hypertrophied elements of the uterine organs are succulent and the tissue is soft, the glycerine causes a gradual flow of a watery fluid, and the uterus appears to become lighter, more moveable, and diminished in size. In the course of from eight to twelve weeks the discharge ceases, the vagina becomes dry, and the vaginal portion of the uterus less swollen. In cases where the signs of amelioration were not presented in the above order, some form of ulceration was present which necessitated the application of caustic remedies.

2. When in cases of hypertrophy of the uterus through increase of the fibrous tissue, and of induration of the womb, secretion of watery discharge seldom occurs after the introduction of the wool and glycerine, the application will still work beneficially by lessening the irritability of the uterus, and favour mechanical treatment by sounds, &c.

3. Losses of substance heal rapidly after the use of glycerine, as this agent preserves the surfaces of the wound clean, and protects them from the air.

4. Glycerine may be applied with advantage in cases where sponge tents are used, as it removes the foul smell of the discharge.

5. When granular growths or ulcers of the vaginal portion of the uterus do not heal quickly on the application of glycerine, or when epithelial erosions are produced, the agent generally contains chlorine, chalk, sulphur, or butyric acid.

6. Glycerine acts beneficially in cases of vaginismus, and also does good service in circumscribed endometritis, when injected into the uterine cavity.

Art. 96.—*Sulphate of Nickel in Neuralgia.*

By J. Dabney Palmer, M.D., Monticello, Fla.

(*Richmond Medical Journal*, April 18; and *Saint Louis Medical and Surgical Journal*, July, 1868.)

The interest of the following remarks does not lie in the employment of the sulphate of nickel in neuralgia, but in its therapeutic effects. We are told that it is a gentle tonic, acting like the preparations of iron and quinia. In this case, however, it seemed to exercise a sedative influence more closely resembling that of the bromide of potassium.

Mrs. B—— has suffered with neuralgia more than three years. During the last two months the paroxysms had been very violent and

frequent—occurring every few minutes. She has taken iron, quinine, arsenic, strychnine, colchicum, aconite, morphine, chloroform, valerian, zinc, mercury, electricity, and many other remedial agents, with only temporary relief. As Prof. Simpson had used the sulphate of nickel successfully in a case of severe and obstinate periodic headache, I concluded to try it, and began February 19th, giving her half-grain doses three times a day. In less than a week the paroxysms were reduced to only one within twenty-four hours; this came on at noon. On last Sunday (March 1st) it did not commence until about 3 P.M. I was present, and gave one grain of the sulphate, notwithstanding she had taken her regular doses that day. Its sedative action was speedily manifested in reducing the pulse and producing sleep. All symptoms of the paroxysm disappeared, and Mrs. B—— states that they did not return until 7 o'clock. In this case the sulphate of nickel has given more permanent relief than anything else; Mrs. B—— tells me that it soothes her quicker than morphine, and is not followed by any unpleasant effects.

ART. 97.—*Sulphite of Soda in Syphilis.*

By S. J. RADCLIFFE, M.D., Washington.

(*British Medical Journal*, October 10.)

Dr. Radcliffe states, in the *Medical and Surgical Reporter*, that he has been using the sulphites and hyposulphites in syphilis; and that the results obtained have been such as to lead him to record his own experience as far as it has gone, so that others may also make a trial of these remedies. He gave them at first in secondary or tertiary cases; but has more recently also prescribed the sulphites and hyposulphites in primary syphilis, after a slight mercurial treatment, with decided advantage. In the older secondary cases, and those in a transition stage from secondary to tertiary, with local manifestations consecutive to primary chancre, such as phagedænic ulcerations, diseases of the mouth, fauces, and nasal passages, he has found, with the internal and external use of these remedies, the parts healing well and healthily, the cachexia disappearing, the patient more cheerful and hopeful at a very early period; and in the primary cases he has found the primary symptoms reduced in violence, the chancre healing, and the early eruption of the skin much limited in extent, and of shorter duration. He thinks also that the lymphatic glands less frequently enlarge, and suppurate more rarely. In no instance has he failed to receive some advantage. He prefers the sulphite of soda, of which he gives one or two drachms daily in three or four doses, for an indefinite period, or until some change is observed for the better, and according to the progress of the case. Usually, in the course of a week or less, some action is manifested, and the medicine must then be persisted in. Externally, he uses it in simple solution in water, or glycerine and water combined. In ulcerations of the mouth and throat, he directs a simple solution, or as above, as a wash or gargle; and as a wash in syphilito-

sycosis it acts with remarkable promptness Of course, every other direction neccssary to keep the system in healthy action must be observed strictly.

Art. 98.—*On the Use of Ether and Etherised Cod-liver Oil in the Treatment of Phthisis.**

By Balthazar W. Foster, M.D.

(*British Medical Journal*, August 8.)

Dr. Foster began by referring to the great difficulty of digesting fatty food, which distinguishes the great majority of phthisical patients. This defective assimilating power had hitherto been treated by incorrect or insufficient means. The only true method of treatment to be adopted in such cases should be directed to the organs whose secretions are at fault. Physiology teaches that the digestion of fat is specially performed by the secretion of pancreas and the glands of small intestine. Dr. Foster had long sought for a means of influencing these glands, and at last had found most ample evidence in the works of Claude Bernard, that ether is capable of augmenting the pancreatic secretions to almost any degree. Bernard was accustomed, in his experiments, to give ether to animals, in order to obtain a good flow of pancreatic juice. Applying this discovery to the treatment of phthisis, Dr. Foster had met with most satisfactory results. The ether was given as a mixture sometimes, but generally in the form of etherised cod liver oil. Of the patients treated, and all observed over some months, some over two years, 42 per cent. improved under treatment, 30 per cent. remained stationary, and only 28 per cent. became worse; 12 per cent. of the cases treated presented all the evidence of the arrest of the disease. In no case were the symptoms and physical signs alone accepted as evidence of improvement, every case was weighed from week to week while under observation, and only a decided increase of weight in addition to other signs received as evidence.

Art. 99.—*On the Influence of a Digestive Habit in the Production of Tuberculosis, and the Indications for Treatment drawn therefrom.*

By David J. Brakenridge, M.D., F.R.C.P., L.R.C.S. Edin.

(*Medical Times and Gazette*, June 13 and 20.)

Dr. Brakenridge endeavours to show that by teaching our patients to flee the winter's cold and court a perpetual summer we are refusing to them the best tonic to fat digestion which nature's generous pharmacopœia offers to our choice, and that, with our cod-liver oil and pancre-

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

atic emulsion in our hands, we ought rather to give them the benefit of a continued, but not too severe, winter temperature. Thus we might hope to restore the lost function and re-establish the normal and habitual digestion of oils. Several observing physicians mention, almost with surprise, that many of their patients in the earlier stages of the disease have seemed to derive benefit from a low temperature, and to suffer during summer heat. It would be more surprising were the reverse true, for warmth, lessening the oxidation of, and consequent demand for, fats, hastens the establishment of that morbid refusal of them on the part of the digestive organs on which the disease depends: whereas, on the other hand, a cold temperature, by increasing the combustion of fat, gradually rouses the digestive organs to an effort to meet the extra demand. It is in this direction only that we can hope to correct this morbid digestive habit and restore the normal function.

Without entering into the whole subject of tuberculosis, Dr. Brakenridge explains his views under the following heads:—

1. The digestion and non-digestion of different kinds of food may and do become habitual.

2. The condition of body favouring the development of tuberculosis is a habit of non-digestion of fat.

3. The causes of this habit are such conditions as diminish the consumption of, and consequent demand for, fat in the system—*e.g.*, warmth, impure air, want of exercise, &c.

4. In the treatment of this condition the indications are to break this habit and to restore the lost power of digestion of oils.

5. This is to be best done by supplying in increased force what we find to be the chief stimulants to the digestion of fat—*e.g.*, cold, pure air, exercise, &c., and by avoiding all that tend to confirm the bad habit.

6. Summer is therefore more to be dreaded than winter in the tubercular diathesis, and safety to be sought rather in choosing a cool bracing climate in the former season than in the opposite and usual course.

Art. 100.—*Beneficial Effects of Quinine in so-called Intermittent Hæmaturia.*

By Lionel S. Beale, M.B., F.R.S., Physician to King's College Hospital, and Professor of Physiology and of General and Morbid Anatomy in King's College, London.

(*The Practitioner*, August.)

In a case which has recently been under the observation of Dr. Peregrine and Dr. Beale, much benefit, Dr. Beale writes, has unquestionably resulted from the use of quinine in six-grain doses. As the patient is a member of the profession, Dr. Beale has requested him to express his views on the matter. He states that he caught a violent cold in September, 1866, and that ever since he has been in imperfect health. He experiences frequent attacks of chilliness, with coldness and numbness of the feet, and actual pain or mere uneasiness in the

loins. His skin has been slightly dusky, and there has been a little sallowness. The circulation is generally feeble, and the heart's action weak. In June 1867, he suffered from two feverish attacks, ushered in by a feeling of intense coldness. During the August and September following he noticed at times a dark sediment in the urine. The first occasion on which the quantity of deposit was considerable was after prolonged exposure to wet mist on a glacier in Switzerland, in September. There was violent shivering, and blueness of the hands and feet. During the autumn and winter he says, "I continued out of health, weak, and anæmic. Daily the urine became intensely loaded and scanty from noon till six, pale and copious at other times. Usually one day in three or four some dark brown stuff passed about the time above-mentioned, never otherwise unless from exposure to cold. I improved in health, but was no better as regards the urine till the end of March, when I began to take quinine, which put an immediate check to the symptoms, and has now virtually suppressed them."

Art. 101.—*Notes on Carbolate of Quinia.*

By Henry Samuel Purdon, M.D., L.R.C.P. Ed., Physician Belfast Dispensary for Diseases of the Skin.

(*Medical Press and Circular,* October 14.)

During the last five months Dr. Purdon has prescribed the carbonate of quinia in various diseases, which remedy has been recently introduced into practice by Professor Bernatzik (see "British and Foreign Medico-Chirurgical Review," April, 1868). In the following brief notes he mentions the results he has obtained.

Subjoined is the formula:—

Take of quinia 120 grains, deliquored carbolic acid 30 minims, rectified spirit 75 minims, evaporate to the consistence of treacle, and make into pills with extract of gentian and powdered cinnamon, each pill to contain one grain of quinine and one-fourth of a grain of carbolic acid.

1. *Furunculi.*—Mrs. Minford, aged fifty-one, admitted at Dispensary for Diseases of the Skin, on June 24th, 1868, suffering from the appearance of successive crops of furunculi, duration of disease about two months, health below par, has been taking a good deal of medicine of one sort or other without benefit. Lives as well as her means permit. Ordered one pill of carbonate of quinia thrice daily; on July 15th discharged, convalescent.

2. *Carbuncle.*—A. Ewing, admitted June 10th, for carbuncle on back, is thin and delicate-looking. No local treatment except an occasional poultice. One pill of the carbolate of quinia thrice daily, which after a few days increased his appetite. Dismissed July 8th cured.

3. *Syphilitic Eruptions.*—Mrs. H—., æt. fifty, admitted at Dispensary for Skin Diseases June 27th, suffering from a secondary syphilitic eruption, together with sore throat, states that she received the disease from her husband, had taken mercury, iodide of potassium, and sarsaparilla, before applying at the dispensary. It occurred to me that this would be a good case for trying the carbolate of quinia in; and one pill, thrice daily, gradually increased, till six were taken. No local application. In September

she discontinued attending at the dispensary, as she was apparently cured.

4. Alex. Walsh, admitted for ulcerated throat and enlarged glands in the cervical region. His mother informed me that she formerly had syphilis, accompanied by an eruption of the skin. The boy has always been in delicate health, his teeth were notched, and complains of pains in the bones at night; had formerly taken iodide of potassium, which gave temporary relief. After taking the carbolate of quinia pills for some time he was much improved in every respect, although a slight enlargement of a few glands in the neck remained.

Art. 102.—*On the Value of Quinine in Delirium associated with Rheumatic Pericarditis.*

By J. M. Winn, M.D., Late Resident Physician of Sussex House Lunatic Asylum.

(*The Lancet*, November 14.)

Dr. Winn adduces the following case to show the great value of quinine, and to encourage a prompt and bold use of this remedy in cases of this kind.

A fortnight since he was summoned to see, in consultation, a young gentleman, fifteen years of age, who had been delirious for three days, and had been attacked with symptoms of rheumatic fever about a week previously. On listening to the heart's action, he found loud and extensive friction sounds over its surface. The left wrist was slightly swollen and tender; the tongue red and smooth; bowels slightly confined; skin moist, but not perspiring profusely. The patient had been taking bicarbonate of potash, and a blister had been recently applied to the region of the heart. Dr. Winn suggested two grains and a half of quinine every four hours, combined with mucilage, and twenty grains of bicarbonate of potash.

The effect of this treatment became rapidly evident; and on the eighth day after Dr. Winn first saw him, the friction sounds had entirely ceased, the patient was sitting up, and all the dangerous symptoms had disappeared.

Art. 103.—*The Tests for Sugar in the Urine.*

By Prof. Oppolzer. Translated by Alfred L. Haskins, M.D., Boston, Mass.

(*New York Medical Journal*, October.)

There are very many different methods, and a large number of chemical substances, by means of which sugar may be detected in the urine.

(*a*) *Moore's Test.*—A small quantity of the solution of potassa is added to the urine to be tested, and then the urine is to be boiled. The upper part of the fluid becomes brown if sugar is present. Or, an excess of caustic potash is added to the urine, and then it is to be boiled. If sugar is present, a red colour will appear. Heller advises

that, after boiling, a little nitric acid should be added. If sugar is present, the odour of caramel or molasses is detected.

(*b*) *Pettenkofer's Test* depends upon the action of gallic acid and sulphuric acid upon a solution of sugar. It gives to the urine a dark-violet colour. On the other hand, the presence of gallic acid is proved by the addition of a solution of sugar and sulphuric acid. This test is, however, not very reliable, and is not much employed.

(*c*) *Trommer's Test.*—A certain quantity of the urine to be examined is mixed with an excess of the solution of caustic potash, and a few drops of a solution of sulphate of copper are added. If sugar is present, the fluid assumes an azure-blue colour. When warmed, boiled, or allowed to stand for some time, the oxide of copper is reduced to a suboxide, which is deposited as a red-brown powder. The reaction is made known by the yellow colour which the fluid assumes, and which later becomes red, and finally dark brown. If the fluid is heated still more, a thin shining coat of copper is deposited on the walls of the test-tube.

(*d*) *Boetger's Test.*—A solution of carbonate of potash or soda is added to the urine to be examined. A little nitrate of bismuth is then added. The fluid is then boiled. If sugar is present, the oxide of bismuth falls as a black powder.

(*e*) *Lowenthal's Test.*—To the urine to be examined, a mixture of tartrate and carbonate of soda and chloride of iron is added. If sugar is present, the urine assumes a dark colour. This test is not very certain, as oftentimes the fluid assumes a dark colour when no sugar is present.

(*f*) *Raspail's Test.*—Urine containing sugar assumes a violet colour when sulphuric acid and albumen are added. This colour may appear when no sugar is present. It is therefore an uncertain test.

(*g*) *Runge's Test.*—A small amount of urine is poured upon a plate, and a drop of sulphuric acid added. The plate is then warmed over a spirit-lamp. If sugar is present, a dark spot appears where the sulphuric acid was dropped. This test depends upon the quality which a saccharine fluid mixed with sulphuric acid possesses of becoming black upon warming. Other organic bodies have the same property as sugar, and therefore this test is not sure. Reich recommends hydrochloric instead of sulphuric acid. This test has the same objection as that of Kunge.

(*h*) *Meauméné's Test.*—A woollen substance (merino) is moistened in a solution of chloride of tin and then dyed. If a drop of urine containing sugar is now placed upon the merino and then warmed, a dark spot appears. This test is very simple and convenient, as these pieces of merino can always be had. This test also is not infallible, as other hydrocarbons besides sugar produce the same reaction.

(*i*) Another test for sugar is that of Cutton with chromic acid, which is reduced to an oxide of chromium when sugar is present. Instead of the original red colour of the chromic acid, a green colour now appears.

(*j*) The test of Jones consists in allowing a drop of urine to evaporate, and then the deposit is examined for the crystals of sugar.

The test of Zwenger depends upon the quality which nitrate of silver possesses, when heated to 212° F., in an ammoniacal solution of grape sugar, of forming a bright metallic mirror. For this purpose some urine is evaporated. To the residue remaining after the addition of

alcohol, water is added, and then an excess of nitrate of silver. The whole is then filtered, and the fluid resulting therefrom is saturated with ammonia. In order to render the test more certain, a small amount of nitrate of silver is now added, and the whole is then heated to 212° F. If a small amount of sugar only is present, a blue mirror of metallic silver is formed. If no sugar is present, the fluid is only clouded.

Art. 104.—*The Use of Sulphite of Soda in Chronic Cystitis.*

(*British Medical Journal*, September 19.)

It has been known for some time that the salts of sulphurous acid, when taken internally, possess the power of preserving healthy urine from putridity. Reasoning from this, Mr. L. Willcox, late house-surgeon of King's College Hospital, supposed that they would have the same effect in those cases of chronic cystitis where, from the large secretion of mucus, the urine becomes putrid before it can be evacuated, and thus the walls of the bladder are kept in constant contact with a highly irritating fluid, and have no chance of regaining their normal condition. He therefore lately recommended and employed the sulphite of soda with very marked success in several cases of chronic cystitis in the hospital. The urine, from being intensely alkaline and horribly fœtid, loaded with pus and with difficulty retained for a quarter of an hour, shortly became clear, acid, without odour, and capable of being retained for two or three hours. The mineral acids had been tried in the same cases previous to using the sulphite, and with little benefit.

Art. 105.—*Note on Dr. Roberts's Method of Estimating Diabetic Sugar.*

By Philip J. Hensley, M.A., M.B.

(*St. Bartholomew's Hospital Reports*, vol. iii., and *British and Foreign Med.-Chir. Review*, October.)

Dr. Roberts's rule for estimating the amount of sugar in a specimen of diabetic urine is to ferment the urine by means of yeast, having first taken the specific gravity, and then, in twenty-four hours, taking the specific gravity again, when the fermentation has ceased, and the scum has subsided. The density after fermentation is subtracted from the density before fermentation, when the "density lost" is ascertained, and the number of degrees of "density lost" indicates as many grains of sugar per fluid ounce. This method is virtually to estimate the amount of sugar by determining the weight of carbonic acid lost, instead of by actually collecting and measuring the carbonic acid, as is usually done. Mr. Hensley points out that the plan pursued by Dr. Roberts is open to several objections, and he shows, by a series of mathematical formulæ, the errors which it involves, but which, we may remark, are not very great, and do not much invalidate Dr. Roberts's rule, which, as Mr. Hensley admits, is extremely useful for ordinary purposes.

Art. 106.—*Peroxide of Hydrogen in Diabetes.*

(*Medical Times and Gazette*, October 24.)

There is perhaps no disease for which so many remedies have been tried, and for the most part ineffectually, as diabetes, and until very recently no medical treatment has had any marked effect in directly checking its most characteristic symptom—the excretion of an abundance of saccharine urine. It seems, however, that at last a remedy has been found which, in the hands of several medical men, seems to act almost as a specific in the treatment of this disease. The remedy is the ethereal solution of peroxide of hydrogen, given two or three times a day, in doses of from half a drachm to two drachms in a wineglassful of water; and for the discovery of its therapeutic action we are indebted to the untiring zeal and energy of an Australian physician, Dr. Day, of Geelong, to whom the profession is also indebted for the guaiacum blood test (which is so sensitive as to give a decided reaction, even when spectrum analysis has failed to give any definite result), and for many important observations on the relations of ozone to disease. Dr. Day's views on the treatment of diabetes were, we believe, originally published in one of the numbers of the *Australian Medical Journal* for last year, and in that paper the case of a lady is reported in full, who, till the commencement of the treatment, was suffering from all the troubles of diabetes, as great thirst, frequent calls to relieve the bladder, and an enormous flow of highly saccharine urine. We are in possession of information that enables us to state that this lady is still in the enjoyment of excellent health, or, at all events, of perfect freedom from all the distressing symptoms of the disease. As a matter of precaution, however, she still takes a nightly dose of twenty minims. Other cases in Dr. Day's hands have been equally successful, and he has received letters from several medical men, telling him that their patients are deriving great benefit from the remedy.

Art. 107.—*On Adulteration of Sub-nitrate of Bismuth.*

By Professor R. Redwood.

(*Pharmaceutical Journal*, August, 1868.)

Dr. Redwood in this communication shows that sub-nitrate of bismuth is adulterated with phosphate of lime. The fact had previously been pointed out by M. Roussin, who found in one case as much as twenty-eight per cent. in a sample which presented the usual appearance, and answered to the ordinary tests of sub-nitrate of bismuth. Roussin's process is as follows for the detection:—Dissolve equal quantities of the sub-nitrate and of tartaric acid slightly diluted with water, and add to this a strong solution of carbonate of potash until all effervescence has ceased and the liquid is rendered strongly alkaline. If the sub-nitrate of bismuth be pure, the liquid will be clear and will remain so even after it has been boiled; but if the sample of sub-nitrate submitted to the test should contain phosphate of lime, even to the extent

of but one or two per cent., this will form a white precipitate, which will not dissolve with long-continued boiling. To these remarks Dr. Redwood adds that the phosphate of lime, even when present in large quantity, is not precipitated in the first instance after the addition of the carbonate of potash, but its precipitation is immediately effected by boiling the solution. From one sample he obtained eleven per cent. and from another forty per cent. of this adulterant. He thinks both specimens were of foreign manufacture.

Art. 108.—*On the Action of the Hyposulphite of Soda in Intermittents.*

By C. H. Chubb, M.D., Cambridge, Mass.

(*American Journal of the Medical Sciences*, April.)

The hyposulphite of soda having recently obtained some reputation as a remedy in malarial diseases, Dr. Chubb was led to make a trial of it in a number of cases, with the following results :—

Of twenty-seven cases in which the remedy was administered, the paroxysms were arrested in twenty-five; in eleven of these the arrest was immediate, no paroxysm occurring after the treatment was instituted. These cases were nearly all of the tertian type. In nine cases one paroxysm, and in the remaining five two or more paroxysms occurred after the use of the remedy was commenced. These cases were mostly quotidians or double tertians, and the recurring paroxysms were invariably of mitigated severity. In no case was the remedy continued longer than a week, unless there was manifest improvement. In five of the cases relapses occurred; in three of these the disease was again arrested by the same remedy, and did not return, the treatment having been continued some time after the arrest of the chills; in the other two of the relapsing cases, sulphate of quinia was resorted to, to complete the cure. The subject of one of these cases was a child four years of age; the other case occurred in a tuberculous subject, where a hectic condition obtained, and in which several relapses have since occurred, notwithstanding the administration of quinia, iron, and cod-liver oil.

The conclusions at which Dr. Chubb has arrived are, that the hyposulphites constitute a valuable addition to our resources in the treatment of malarial diseases, but that, in the majority of instances, they are less prompt than the preparations of cinchona. He considers them most appropriate in cases which resist the action of sulphate of quinia, or in which that remedy is contra-indicated; but he should hesitate to rely upon them in grave forms of pernicious remittent.

Art. 109.—*Liquid Oxysulphate of Iron.*

(*American Journal of the Medical Sciences*, October.)

Dr. J. R. Black extols (*Cincinnati Lancet and Observer*, March, 1868) the following preparation, the formula for which was handed to him five

years ago by an old physician of Tennessee. ℞—Ferri sulph. ʒij; acid. nitric. fʒiij; aq. destill. fʒiss. Rub the sulphate with the acid slowly in a mortar, gradually add the water after the sulphate is all dissolved, and filter through paper. Dose, from six to twelve drops in water or quassia infusion or syrup. Dr. B. says that this is the most palatable of all the ferruginous preparations.

Art. 110.—*A new Mode of Treatment of Plastic Croupy Angina, and of other Modifications of Diphtheria, by Balsam of Copaiba and Cubebs.*

By M. H. Trideau.

(*British and Foreign Med.-Chir. Review*, October.)

The new method described in this pamphlet of treating diphtheria, a disease of late years so formidable and fatal, appears to be of a very promising kind. Should its success be confirmed by extended and varied experience, great will be the boon conferred, and great will be our indebtedness to the author who has introduced it.

We learn from M. Trideau that he was first led to give attention to the disease in question at a time that it raged with unusual severity, indeed to such an alarming degree as to incite the inhabitants of the districts, with the hope of arresting it, to undertake pilgrimages to a particular chapel, an event never before witnessed in the memory of man.

M. Trideau, reflecting on the nature of the malady as affecting the constitution generally, and keeping in mind the inefficacy and bad effects of local treatment, was induced, reasoning from analogy—that which he traced between diphtheria and general catarrhal affections, especially of the adynamic and gangrenous varieties—to make trial of balsams, medicines of acknowledged efficacy in catarrhal ailments; they alone, as he holds, having the property of drying up the sources of mucous secretions.

He first made trial of styrax with copaiba, but finding the former so often adulterated, he substituted for it cubebs—a medicine more readily taken, rapidly absorbed and diffused, and followed by no bad effects, but, on the contrary, by an improved appetite and digestion.

Of the results obtained he speaks with the most perfect confidence, stating that after the experience of many years, and the treatment of more than 300 cases, he has been almost invariably successful; at least, when he had to contend with the malady in its first or second stage; and further, that the convalescence has been of short duration. He qualifies, however, his statements, by insisting on the necessity of distinguishing between simple croup (*le croup d'emblée*), and croup the consequence of pseudo-membranous angina,—the latter so often baffling any remedial means.

His special mode of treatment, as described by him (we almost literally translate it) is the following:—

For adults half a tablespoonful of the syrup of copaiba every second

hour, followed by a gramme (about fifteen grains) of freshly powdered cubebs in a tablespoonful of syrup, also every two hours, but in the intervals of the administration of the copaiba.

For infants the dose should be one-half of the preceding; or six grammes of cubebs in the twenty-four hours in a teaspoonful of copaiba every two hours.

In some cases the cubebs may be given to the amount of twenty-four grammes a day to adults, and of twelve to infants.

After twenty-four hours it usually happens that the copaiba is no longer tolerated. Then it should be suspended. It should be discontinued also if the strength of the patients be much reduced, or should there arise a repugnance towards it. One, two, or three drops of laudanum are recommended to be added to the syrup, as likely to make it tolerated.

Commonly the malady yields to the treatment in three or four days. Nevertheless, it is sometimes prolonged to the seventh. Then, under the continued use of the balsam, the following symptoms not unfrequently occur:—A sensation of diffused itching, an increase of the angina, and of febrile excitements, with an eruption simulating that of scarlatina, sometimes discrete, sometimes confluent, and resembling urticaria. This eruption never co-exists with false membranes. These infallibly cease when it shows itself, if they have not disappeared before the treatment has been so much prolonged. The ecthyma is most frequent when the cubebs and copaiba are administered together.

As parts of the general treatment alimentation should never be neglected, and the use of coffee is recommended as favouring the recovery of strength. Moderate exercise should be taken; indeed, it is considered essential by the author, and that the patients should not be confined to bed except when the eruption has appeared, or there has been an entire prostration of strength. M. Trideau forewarns the not unfrequent occurrence of profound and prolonged sleep as the effect of the medication, it having been often observed by him in instances in which no laudanum has been administered; it should, he says, create no alarm.

Relative to the *rationale* of the treatment he is judiciously brief, not forgetting that in therapeutics our best guide, the only reliable one, is careful experience. The hypothesis which he advocates in accounting for the effects of the balsams is that of substitution. He thus reasons. The scarlatiniform eruption described which often occurs on the seventh or eighth day of the treatment is the infallible correlation of the disappearance of the false membranes. This phenomenon, so remarkable, readily intelligible by those who comprehend the physiological and pathological affinities which unite the mucous and cutaneous tissue, demonstrates the *modus operandi* of the balsamic treatment. In brief, it is evident that the whole of the recovery is under the influence of the medicines, as it was before under that of the malady: on the other hand, that the cure is accomplished by the way of a general substitution; adding, emphatically: Now this substitution can result only from the antagonism between a morbid exanthema and the medicinal exanthema. Consequently, it is specially requisite to produce the latter. The treatment is illustrated by twenty-six cases. In conclusion, the

author refers to Dr. Garreau, Chief Surgeon of the Hospital of Lowal, in confirmation of the efficacy of the treatment in question.

In a subjoined note he calls attention to a remarkable peculiarity, that though the exanthema ordinarily only occur after a prolonged treatment, yet it occasionally appears sooner, after three or four days; nevertheless, whether the treatment be restricted to the shorter period, or the doses be equally prolonged, *it is on the seventh or eighth day that the eruption is always produced.*

Art. 111.—*On the Employment of Electricity as a Local Anæsthetic after Intra-Uterine Cauterizations.**

By Dr. Victor Revillout.

(*L'Union Médicale*, No. 93, 1868.)

Dr. Revillout applies electricity to the treatment of diseases of women, and has found it fulfil numerous indications. The following is one of the chief of these:—

For the treatment of chronic metritis one of the most efficacious means is unquestionably cauterization of the uterine cavity, either with a stick of nitrate of silver, or, according to the advice of M. Courty, with sulphate of copper. About seven years ago Dr. Revillout treated a case of chronic metritis with considerable hypertrophy of the neck of the uterus, by introducing a stick of lunar caustic deeply into the cavity of the womb. A piece of this caustic broke off, and could not be withdrawn. The patient was placed in a salt bath. From this period the metritis gradually amended, and the neck of the uterus became soft and diminished in size. The woman, however, suffered from intense pain, which commenced some minutes after the introduction of the caustic into the womb. It was of the nature of cramp, and extended to the loins; it was apparently due in great part to the irregular contraction of the fibres of the uterus.

After this pain had continued for some time Dr. Revillout, for the purpose of diminishing the uterine cramp, employed the inductive electric current, so as to generalize the contractions and to cause the painful fibrillar spasm to cease. This plan succeeded.

In the same patient a second stick of lunar caustic was placed in the cavity of the uterus; Dr. Revillout then applied to the neck of the uterus a plug of charpie saturated with a strong solution of salt; this formed a very good conductor. A copper wire, covered by caoutchouc, and terminated by a metallic knob, served to place the plug of charpie in communication with one of the two wires of the electric apparatus; whilst the other conductor was placed on the hypogastric region. A very feeble current was passed for nearly three-quarters of an hour, and during the whole of this time the pain became very slight; it in-

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* Communicated to the Académie de Médecine.

creased somewhat afterwards, but never became in the least comparable to what it had been during the first cauterization. The results as to cure were excellent.

Dr. Revillout then commenced to study the influence of the inductive current as a uterine anæsthetic.

The sensibility of the uterus varies much in different persons, and is developed more on the internal than on the external surface of the neck. Pain is scarcely manifested at the exact time of the cauterization either of the body of the uterus or only of the neck. When the caustic is removed, the pain comes on after an interval which may vary from some minutes to half an hour; then for a period equally variable it increases in intensity, and finally diminishes. With some women it is very severe; but with the majority it is tolerable, and with a few almost nil, although the contact of the metallic salt may have been prolonged for some time.

It is necessary to recognise these individual differences in order to render an account of the influence that electricity may have upon this kind of pain.

It is necessary also to guard against another cause of error. With some women very great sensibility of the uterus is due to a kind of neuralgia, which may cease during the treatment, and be replaced by the contrary condition, as is often observed in the alternate anæsthesia and hyperæsthesia of hysterical patients.

According to Dr. Revillout's experience, the electric current always diminishes very markedly, and often annuls the uterine pains when applied immediately, and prolonged for a sufficient time after cauterization. It is not necessary for the current to be a strong one. In the normal condition of the uterus, the passage of a feeble current through the walls of the organ, or even along the mucous membrane of the vagina, is attended by no sensation. The introduction of the conductor into the vagina gives rise to no disagreeable impression, except it be a feeling of a slow and gradual contraction of the vulvo-vaginal canal, produced by electricity. The abdominal surface is sensible to electricity, but much less so than the hands, except it be the seat of neuralgia or hyperæsthesia. If the inducting pad be firmly pressed down over one of the ovaries, excessive hyperæsthesia is often set up in this region.

When, after cauterization, the employment of electricity has been deferred for some time until the uterus has become irritated and sensible to the passage of the current, the electric current loses its power as an anæsthetic, and sometimes causes a burning pain. Dr. Revillout, in instances of this kind, does not always carry out the electric plan of treatment, since electricity, though very powerful for preventing to a certain extent the acute pains which may be caused by intra-uterine cauterizations, is less efficacious in relieving them when they have been already manifested. It is therefore necessary to apply electrization as soon as possible after the cauterization. The duration and intensity of the process should be adapted to the nature and extent of the latter proceeding. Whenever there is any localized inflammatory action going on in the appendages of the uterus, or any engorgement at

the fundus of either of the vaginal cul-de-sacs, cauterization, whether followed by electrization or not, must be abstained from until the disappearance of these phenomena. In gynæcology we cannot act with too much prudence and patience.

Art. 112.—*On a New Duck-bill Speculum.*

By J. C. Nott, M.D., New York.

(*American Journal of Medical Sciences*, October.)

The following are the advantages Dr. Nott claims for the instrument introduced to the profession:—

1. No instrument hitherto devised can be more easy to introduce.
2. It can be equally well used in the semi-prone position or on the back.
3. While elevating or depressing the perineum, its feet are so constructed as to expand the *ostium vaginæ* to any desired extent.
4. It is perfectly self-retaining, without any arrangement external to the vagina.
5. In the semi-prone position it has the same advantage of atmospheric pressure as the lever speculum of Sims; and when the patient is on the back, by elevating the hips with a cushion or pillow, you have the same advantage of atmospheric pressure.
6. I use the instrument almost entirely with the patient on the back, because the position is more comfortable; because I can do everything I wish to do with more facility; and because the light from any window is more easily commanded. The concave surface of the speculum looking upwards, catches and throws the light fully on the anterior wall of the vagina and os uteri.
7. For all ordinary manipulations, where no cutting is required, instead of a table, any common bedstead or couch will command the light sufficiently from almost any window to give a good view. Baker Brown, in his operations for vesico-vaginal fistula, while using Sims' speculum, places the patient in the lithotomy position.
8. Like Sims' speculum, mine does not stretch the vagina *longitudinally*, and therefore allows the os uteri to be drawn down with a tenaculum near to the vulva.
9. The anterior wall of the vagina being left free, more space is afforded for operations
10. With this speculum there are few operations that cannot be easily performed without an assistant.

Art. 113.—*A New Preparation of Lupuline.*

(*British Medical Journal*, October 3.)

Dr. Dyce Duckworth, medical tutor of St. Bartholomew's Hospital, says that it is certainly remarkable that lupuline has not found a place in the new *Pharmacopœia* of this country. It may, however, be said

that it is not altogether ignored, inasmuch as it is expected to be present in the hops as ordinarily employed. It is not too much to assert, that the amount of it in different samples varies considerably; and it is certain that this peculiar powdery matter represents the active principles of the entire strobili in a concentrated form. During a recent series of pharmaceutical experiments with the powder, he was constantly struck with the remarkable valerian-like odour evolved from the different preparations; and he was interested to find, in the course of subsequent readings on the subject, that M. Personne had discovered valerianic acid in lupuline. In none of the *British Pharmacopœia* preparations of hop, except the extract, can it be said that the real strength of the drug is removed. The tincture made with proof spirit, which does not thoroughly exhaust the active parts of the scales of lupuline, and the watery infusion, can but inadequately represent the virtues of this medicine. He recommends the following formula. Lupuline, 2 oz.; spirit. ammon. arom., a pint. Macerate for seven days, agitating occasionally; then filter and add sufficient of the menstruum to make up to a pint. The dose of this is from twenty minims to one fluid-drachm. He proposes to call it "tinctura lupulinæ ammoniata." He considers this preparation of the hop as the best we at present possess. According to Christison, the dose of tinctura lupuli should be from one fluid-ounce to one fluid-ounce and a half to produce any hypnotic effect: the ordinary dose consists of as many drachms. Dr. Ives, of New York, states that the tincture of lupuline is an effectual hypnotic in restlessness the result of nervous irritability, and in delirium tremens. Some advantage, too, is derived from the presence of ammonia in considerable quantity, and this whether the preparation be exhibited as a hypnotic, or as a tonic combination of bitter and ammonia.

Art. 114.—*On Prolonged Hypodermic Injection.**

By J. Harrisson, M.R.C.S.

(*British Medical Journal*, August 22.)

The author narrated a case where severe sickness had been present during two months, neither food nor medicine being retained. [The illness was imagined by the patient to have commenced with conception. Her friends, however, attributed it to a cold caught during menstruation.] The os uteri was swollen. Sedative enemata and vaginal injections were tried without avail. Hypodermic injection was then commenced. One grain of acetate of morphia was dissolved in six minims of water, and one minim was injected three times a day; and at once the vomiting abated. The strength was increased until fourteen minims were used twice a day; and the injections were continued from April 13th to July 1st. By means of ergot and drastics, the patient aborted; nevertheless, the gastric irritation continued. On July 9th the injec-

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

tion was reduced to ten minims once a day. When this was intermitted, the vomiting recurred. On July 20th the injections were discontinued, as the catamenia returned. The patient was reluctant to leave off the injections. The skin of the arm was pierced two hundred and sixty times, with very slight unpleasant effect. Suppuration did not occur. A slight disorder of the liver yielded readily to treatment.

Dr. Routh wished to know whether, amongst all the remedies that had been used, belladonna had been tried; for he had found that large doses of the tincture (twenty to thirty minims) every three or four hours had been of great service in arresting vomiting. In one case, a young woman, after seduction, vomited after every kind of food. Every sort of remedy was tried without success, till Dr. Routh applied Dr. Chapman's ice-bag to the spine for an hour in the morning, and again at night, when the sickness passed away entirely, and she went to the full term well.

Dr. Greenhalgh mentioned the case of a lady one or two months advanced in pregnancy, who came under the care of Dr. West for sickness. Dr. West advised abortion to be produced, but which was not agreed to. She had been kept alive by nutrient enemata. In this case the sickness was stopped by belladonna. In cancerous vomiting he had found belladonna, or atropia, or morphia, of great use administered *per vaginam*. In the use of vaginal remedies it is very proper to see previously what is the condition of the uterus, as, if there be no abrasion of the mucous membrane, there is no risk; but, if the surface be abraded, the risk is considerable. A lady was in this manner nearly poisoned by one-sixteenth of a grain of atropia.

Mr. Harrisson said that, in his case, belladonna had been used on spongio-piline externally, and also as a vaginal application.

Dr. Hall said that he knew a case nearly terminate fatally by a prescriber writing so badly that one-sixteenth was mistaken for seven-sixteenths.

Sir C. Locock questioned the justifiability of bringing on premature labour for sickness in advanced pregnancy. For his own part, he was against the practice; for he remembered a case in which profuse hæmorrhage occurred after the attempt, and the patient died. No patient had, so far as he knew, died after sickness in pregnancy. Ten grains of calomel would often stop the most violent sickness; and chloroform, given almost to insensibility, was very useful.

Dr. Priestley mentioned a case in which, if abortion had been used, the patient might have been saved. A lady had suffered from vomiting for five or six months, was constantly tossing about, and was much exhausted by it. Every remedy had been tried without success. There was a consultation with regard to abortion. The night previously a grain of opium had been given. The opinion was, that, if the operation were performed, the patient would sink. Two more grains of opium were administered; and the patient became comatose, and died from narcotism. The question arose whether, if abortion had been brought on, the patient might not have been saved. Dr. West's opinion was that abortion in some cases should be procured.

Dr. Marion Sims gave the following cases: A lady conceived in

November, and vomited till February. Dr. Campbell and others in Paris had been consulted. She aborted, and died the same night. Another had been operated on for vaginismus. She conceived in May, and vomited till July. Her mother had vomited throughout all her pregnancies, and opposed any operative interference. On August 17 she rose to satisfy a call of nature; and, as she got out of bed, she fainted, and died in two hours. Two lives might have been saved if the operation had been performed sooner. In another case, in which Trousseau gave as his opinion that abortion should be procured, a dead fœtus came away, and the woman's life was saved.

Dr. Beatty never saw a death occur from sickness of pregnancy. He would not hesitate to produce abortion, if he saw a patient dying. He did not think anyone was justified in using such a dangerous remedy as atropia when belladonna could be used.

Art. 115.—*Subcutaneous Injection of Morphia in Obstetric Practice.*

By Dr. Kormann.

(*Monatsschrift für Geburtsk.*, August; *Medical Times and Gazette*, October 10.)

In an interesting paper read to the Leipzig Obstetrical Society, Dr. Kormann stated that he had found this a very useful practice under the following circumstances, viz.: 1. During painful dilatation and expulsory periods, especially in primiparæ and in narrow pelves. 2. In spasmodic pains. 3. In painful complications of the process of labour in general. 4. In severe after-pains. It is in the first category of cases that he has especially employed it, injecting one or both thighs.

Art. 116.—*Air of Hospitals, in Reference chiefly to the Presence of Microscopic Germs.*

By E. Lund, F.R.C.S.

(*British Medical Journal*, August 22.)

In a most valuable paper read at the 36th annual meeting of the British Medical Association, the author detailed some interesting experiments which he had made on the air in one of the surgical wards of the Manchester Royal Infirmary. The ward in which the experiments were conducted contained four beds, and had a cubic capacity of about 5400 feet. A fluid ounce of distilled water was placed in a pint stoppered glass bottle; and, by removing the stopper, raising the bottle sharply through the air, reclining and quickly shaking it, the water and the air were intimately mixed. This process being repeated fully 500 times, the water became opaque, and deposited a sediment, which was examined under the microscope. After forty-eight hours there were

distinct evidences of the presence of organic life, and on the fifth day there were found in it numerous actively-moving vorticillæ, with abundance of monads in ceaseless motion. From this result Mr. Lund inferred that, if the experiment were repeated under more varying circumstances, it might be shown that the presence in air of microscopic organic germs was a constant condition, and easily detectable.

Art. 117.—*On the Importance of Obtaining correct Comparative Observations in Estimating the Influence of Light in Health and Disease; illustrated by the Actinograph.**

By Horace Swete, Esq.

(*British Medical Journal*, August 22.)

After discussing the importance of light to vegetables and animals, and showing the threefold division of light into visual, actinic, and calorific, Mr. Swete exhibited and described an instrument he had constructed, in which a sensitised paper-ribbon was passed by a simple clockwork movement by a chink of light one-tenth of an inch in width, at the rate of five minutes for each tenth; thus the amount of actinism present in each hour was represented by a shaded tape of little more than an inch in length, and compared with a test standard of tint. The author exhibited actinograms produced by the apparatus, and showed the importance of constructing model lodging-houses and dwellings for the poor with sufficient light, so as not to sacrifice the amount of actinism necessary for health to the lattice-panes and architectural windows of the darker ages; and concluded his paper by stating that he would spare no pains to perfect his instrument during the remainder of the year, hoping that some of the associates would unite with him in taking coincident observations in various localities.

Art. 118.—*Therapeutic Uses of Oxygen.*

By M. Constantin Paul.

(*Bulletin Général de Thérapeutique*, August 15.)

M. Constantin Paul sums up a paper on this subject as follows:

1. Oxygen is not a poisonous gas; and thirty litres of this gas in the pure state can be inhaled for several days without any accident. It is only at the end of two or three weeks that fever is produced.

2. Oxygen is a valuable resource in cases of asphyxia, especially when this is due to accidental suffocation. It may be useful in cases of strangulation, hanging, and drowning, as well as in poisoning by noxious gases or vapours.

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

3. Oxygen is a valuable remedy in nervous asthma. In humid asthma—*i. e.*, the catarrh which complicates emphysema—it will also be of good service, provided its use be persisted in.

4. In phthisis, oxygen has not given such good results as were expected. It produces immediate relief, and this is very valuable; but fresh exacerbations follow, more intense, perhaps, than the first. It can, then, be regarded only as a palliative.

5. In albuminuria, oxygen may become a valuable remedy, if it be found, by further observation, to cause the albumen to disappear from the urine, as was observed in a case by Eckart, and in one under the author's care. In any case, the remedy should be tried.

6. The same remark is applicable to diabetes.

7. In local gangrene, if there be not obliteration of the arteries, oxygen is a sovereign remedy.

Art. 119.—*On the Action, Use, and Value of Oxygen in the Treatment of various Diseases.*

By S. B. Birch, M.D., M.R.C.P.

In his work "On Oxygen" Dr. Birch maintains that as atmospheric air is provided for us by Infinite Wisdom, as the perfect respiratory medium physiologically considered, so physiological experiments point to its physiological relations, and materially assist towards a comprehensive view of artificially-prepared oxygen as a curative agent. But, on the other hand, artificially-prepared oxygen can only be thoroughly tested in its own plane; being a remedy demanded by perverted physiology, its true value can only be understood through pathology. Thus it can be clinically tested by its action through the lungs, stomach, and skin; but in testing it we must recognise practically—

1. Heat, polarization, motive power, associated with the oxygen atom.

2. The same forces in the living organism.

3. The mutual relations of these forces, inorganic or organic, in connexion with *individual constitution*, and various perversions from the healthy standard, as well as under medicinal modification.

Art. 120.—*Disinfectants and Deodorisers.*

By M. Verstrael.

(*British Medical Journal*, October 10.)

M. Verstrael, in a paper read before the Academy of Sciences, of which the *Chemical News* gives an abstract, proposes to attain the conditions required of disinfectants by the following processes:—

1. To decompose the sulphide and carbonates of ammonium, the chlorides are employed, either of iron, zinc, or preferably manganese. Sulphates are absolutely proscribed, for the reason that the putrefying

matters react on the sulphate of ammonia formed by double decomposition, the final result being the evolution of sulphuretted hydrogen, so that after a little time it is necessary to disinfect a second time. The chloride of manganese proposed as a disinfectant would be obtained from the chlorine residues of manufactories, a product which is stated to be valueless. The residues contain too much hydrochloric acid to be immediately available; the acid is neutralized either by the oxides of iron or zinc, or by dolomite. By this saturation of hydrochloric acid with lime and magnesia, the value of the product as a manure is greatly enhanced. Experiments on a large scale showed the product to be very rich in nitrogen and in phosphoric acid, and the fluid after this treatment was found to contain no phosphoric acid. Manganese, as well as magnesia, has been demonstrated by the recent works of M. Peligot to be easily assimilated by plants. To render the action of the chloride of manganese still more efficacious, 5 litres of chloride of lime solution of 12° are added to 100 litres of the manganese solution.

2. Notwithstanding the value of the disinfectant thus prepared, metallic salts by themselves can effect no complete and permanent disinfection; no influence will be exerted upon the offensive odour, *sui generis*, of the refuse matter. The antiseptic agent introduced for this purpose is tar, solidified by admixture of cinders, deprived of sulphurous compounds by exposure to the air for fifteen or eighteen months. In this mixture are contained a considerable quantity of sulphate of alumina, 15 or 20 per cent. of finely divided carbon, 50 or 60 per cent. of nitrogen, and protosulphate of iron and silica in small quantity. In the place of the solidified tar, the heavy oil of tar residues has been employed with equal success. Lastly, to clarify refuse water, a solution of impure sulphate of alumina, employed in the dose of a kilogramme per cubic metre, has been found to give very remarkable results; this solution serves to clarify the liquid, and to cause the deposition of the solid matter. A cesspool of 20 cubic metres, in Rue des Jeuneurs, was treated with 650 kilogrammes of manganese and 30 kilogrammes of chloride of lime liquid, then 180 kilogrammes of the aluminous powder with tar. After the liquid had been agitated and allowed half an hour's rest, it was clear and inodorous. The sanitary inspectors and other critics who witnessed the experiment testified that the matters were completely disinfected. After the liquid had been poured off into the sewer, the atmosphere of the receptacle was tested by the lowering of a light, after which two workmen descended, who found no other odour than a slight one of benzol.

Art. 121.—*On the Use of Bromine in the Treatment of Hospital Gangrene.*

By John Wm. Bligh, M.D., Late Acting Assistant-Surgeon U.S. Army.

(*The Lancet*, August 29.)

During the late civil war in America, hospital gangrene, especially during the summer months, prevailed to an alarming extent. The

deaths from this cause alone were, in some sections of the U.S. army, truly appalling, until the use of bromine as a treatment was introduced by Surgeon Middleton Goldsmith, U.S. Volunteers, in charge of the Jefferson Hospital, Jeffersonville, Indiana. After this time no deaths attributable solely to this cause occurred, when properly treated by it.

The mode of applying the bromine is substantially as follows:—

1. The wound must be *thoroughly* cleansed of all gangrenous slough by means of a wooden spatula or blunt scalpel, until the firm, healthy tissues beneath are reached; and the parts dried as perfectly as possible with tow. To do this effectually, the patient is first placed under the influence of some anæsthetic, a mixture of equal parts of chloroform and ether being generally preferred. The ether is used to counteract, by its stimulating properties, the depressing effects of the chloroform; whilst the rapidity of action of the latter is maintained. Without first *thoroughly* clearing away the diffluent slough, bromine, powerful as it is, is unable to penetrate to the healthy tissues. To want of this very necessary precaution Dr. Bligh believes all the failures attributed to it are to be ascribed.

2. Having thus prepared the wound, pure bromine is applied by means of swabs of lint attached to the end of small sticks, say eight or ten inches in length; great care being taken to touch every portion of gangrenous surface. The bromine, being extremely volatile, penetrates every sinus, &c., which could not be reached by any of the other liquid or solid escharotics in use. The bed or operating table upon which this application is performed must be placed in such a position that the fumes, which are extremely irritating and annoying, will be carried off by a draught of air in a contrary direction from that in which the operator and his assistants are.

3. After the application, the wound should be stuffed with lint damped in a *solution* of bromine made with water and bromide of potassium, and then wrapped up in oiled silk. After the lapse of a few hours linseed poultices are applied, to facilitate the removal of the eschar, which soon peels off, as the skin from a boiled potatoe, leaving healthy rose-coloured granulations below. The wound is then treated in the ordinary way, special care, however, being taken to keep the parts clean, and, by means of dressings saturated in some weak disinfecting solution, to prevent the absorption of fresh virus.

4. During the progress of the disease the patient must be supported by the free use of whisky, by quinine, &c.; but beyond the use of stimulants and tonics, and endeavouring to keep the secretions and excretions in as healthy a state as possible, very little internal treatment is required, as the constitutional symptoms are merely secondary, and cease immediately on the successful combating of the local trouble. In a few hours after a thorough application, they usually vanish as it were by magic; and instead of the patient being the disheartened, despairing being he was previously, he will be a hopeful man, sanguine of recovery.

When on duty in the 15th Corps Field Hospital, Dr. Bligh was obliged on one or two occasions to resort to the use of nitric acid when bromine was not to be obtained; but found it wanting in the very penetrating and escharotic effects of the latter—two properties which render bromine so specially adapted. Although applied in a similar

manner, the results were not nearly so satisfactory, very frequent applications being required, and the patient remaining under treatment for a much longer period.

Art. 122.—*On the Use of the Bromide of Potassium in the Treatment of some Nervous Affections.**

By James Turnbull, M.D., Physician to the Liverpool Royal Infirmary.

(*Liverpool Medical and Surgical Reports*, October.)

The most important of the effects produced by bromide of potassium are, Dr. Turnbull writes, the following. 1. The alterative or absorbent action it sometimes exerts. 2. Its power of diminishing sensation, and causing dryness of the throat and neighbouring parts, an effect which Dr. Gibb found to be more decidedly induced by bromide of ammonium, and led him to try it as a remedy in hooping-cough. This power, which may be partly due to the local action of the bromides, but is no doubt chiefly owing to the sedative effect produced on the nervous centres through absorption, has likewise been turned to account in the treatment of spasmodic asthma. 3. In large doses, bromide of potassium produces sleepiness; and this is one of its effects to which Dr. Turnbull would more particularly direct attention, as it furnishes a valuable means for the treatment of some nervous affections. 4. It has a sedative influence on the sexual organs. 5. It has been found a valuable remedy in epilepsy. 6. In medium doses, continued for long periods, it produces the remarkable sedative effects which have been described by Dr. Bazire, the translator of Trousseau's Lectures.

The therapeutical use of the bromide of potassium, which Dr. Turnbull wishes more particularly to notice, is the power which it has of producing sleep when administered in full doses.

When sleep is prevented by pain, arising from some abnormal physical condition of the body, opium in some of its various forms is the grand remedy; and, if we except chloroform, it has no rival as a sleep-inducing agent in this class of cases; but there are others where the want of sleep arises from mental rather than from physical pain, or from trifling causes exciting a morbidly sensitive nervous system. In the latter, opium often prevents, instead of inducing sleep, and causes its after effects in an aggravated degree. Dr. Turnbull has tested the bromide of potassium in some cases of the latter description, and being convinced that it is a remedy of power, and one the value of which is scarcely yet generally known by medical men, he briefly gives some details of a few cases of this description in which he has used it with advantage.

Brown-Séquard, the author says, usually gave to adults a dose of thirty grains of the salt a quarter of an hour before the last meal, and a second dose of from thirty to fifty at bedtime. In cases in which, without any nervous complaint, there is sleeplessness, owing to some cause of cerebral excitement, as well as in all neuroses, excepting hydrophobia, tetanus, very severe cases of delirium tremens, and some forms of insanity, sleep is almost always induced by that remedy.

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* Abstract of a paper read to the Liverpool Medical Society.

Art. 123.—*Action of Bromide of Potassium.*

By Dr. Pletger.

(*Deutsche Klinik*, No. 10, 1868 ; and *American Journal of the Medical Sciences*, October.)

According to Dr. Pletger's observations on the human organism, bromide of potassium weakens the energy of the heart's action, and reduces the frequency of its beats, so that the pulse is frequently as low as fifty. Large doses of the salt produce somnolency, loss of memory, and mental depression, and in some cases imbecility. These symptoms quickly disappear after suspension of the remedy or a reduction to smaller quantities. The continued administration of large doses causes more or less incapacity for voluntary movements, or a disinclination to perform them. The subject reels and stumbles when walking, whilst in other instances there is muscular debility of the arms without sensations of vertigo and disturbance of equilibrium. The motor nerves seem to be paralysed through the action of the bromide. The bodily temperature is lowered. The action of the salt upon the digestive organs is manifested by a mild gastric catarrh with a tendency to vomiting, an obstinate constipation after large doses, and redness of the oral and pharyngeal mucous membrane ; cough and slight catarrh of the upper air-passages are sometimes produced, and, after doses of from one to two drachms, some dyspnœa. Against abnormal irritability of the genital system the bromide acts with undoubted efficacy ; as a remedy for spasm and increased reflex action of the nervous centres, it excels all other means.

Art. 124.—*The Non-Efficacy of the Bromide of Potash in Chordee.*

By W. F. Munroe, M.D., Physician to the Boston Dispensary.

(*New York Medical Journal*, July, 1868.)

As there appears to be a tendency, at the present time, to consider the bromide of potash a specific in nearly every stage of nearly every disease, Dr. Munroe has thought that a little negative evidence migh not be unseasonable.

Nearly all the works upon venereal diseases recommend its use in chordee, and Dr. Munroe has used it persistently, with such unsatisfactory results, that he has abandoned its use, unless specially indicated by an unnatural nervous condition of the patient. The list of cases of which he has preserved the records comprises thirty-six ; in twenty-nine the bromide appeared to have no effect ; in four its effects were exceedingly doubtful ; in three cases only were the results of its administration at all satisfactory ; in one of these Dr. Munroe considered that the relief was due more to the effect of the drug upon the over-strung nerves of the patient, than to its anaphrodisiac properties.

In all the cases, hot water lotions at night were ordered unless contra-indicated. None of the usual recommendations as to sleeping upon the side, upon a hard bed, &c. &c., were neglected.

Art. 125.—*Use of Capsicum in Delirium Tremens.*

By R. D. Lyons, M.B.

(*British Medical Journal*, November 7.)

Dr. Lyons sums up his experience of the drug as follows. 1. Capsicum is a valuable and reliable drug when opium fails, or is, for any cause, contra-indicated. 2. It is a safe drug for general employment in delirium tremens, and, as such, may be confidently recommended to the country practitioner for general employment. 3. It is not open to the objection which attaches to the continued use of opium, which, when it fails to tranquillize and produce sleep, adds to the state of excitement; and, if pursued beyond a certain limit, kills, as it has undoubtedly done in numerous instances, by suddenly induced opium-coma. 4. In some few instances, Dr. Lyons informs us, he has employed capsicum in the delirium of fever, when opium had failed to induce sleep, and with marked success in certain cases.

In a very considerable number of cases, Dr. Lyons has found that a single dose of capsicum—twenty to thirty grains, according to the urgency of the symptoms—suffices to produce rest, sleep, and consciousness.

Art. 126.—*Oxide of Zinc as a Therapeutic Agent.*

By J. Waring-Curran, L.K. & Q.C.P.I.

(*The Lancet*, October 24.)

Oxide of zinc, Dr. Waring-Curran writes, will be found of great value in the earlier stages of phthisis. It seems to steady the nervous system, and act as a sedative to the wandering pains and general depression which exist at the commencement of the complaint. In the later stages, where profuse sweating and colliquative diarrhœa harass the patient and quickly lower the vital capacity, its very wonderful effect of checking the latter and arresting the former is best learnt from the lips of the sufferer himself. Dr. Curran prescribes it in two-grain doses, with extract of conium, in the form of pill, giving three in the day to begin with, and gradually increasing the dose every week or so, until fabulous quantities of the oxide are taken daily.

Epilepsy.—The oxide of zinc in pill and the bromide of potassium in mixture, form a method of treatment Dr. W. Curran considers not to be equalled, when assisted by the occasional application of Chapman's spinal ice-bag, in cases of epilepsy. The oxide of zinc he has administered alone, giving camphor julep as a placebo, in some severe forms of the disease; and although under its use the number of attacks became less, and the general health of the patient improved, he did not obtain the same satisfactory results as when combined with the bromide. The bromide he has also exhibited *per se*, but experience has taught that the one is essential to the other, and that the two drugs combined form an indispensable method of treatment, by steadying the system generally, equalising the circulation of the nervous centres, and thus warding off

the attacks of the most distressing complaint which comes within our province to treat.

In *Spermatorrhœa* and *Gleet* Dr. Waring-Curran finds it a drug of the greatest importance. In the former, I have given it during the day, with some camphor and conium at bed-time, with the happiest results. Under its administration in the latter the mucous membrane appears to take on healthy action, and we get speedy riddance of a class of patients who hitherto gave no little trouble to their attendant, whilst in many instances they themselves became hypochondriacs.

Chronic Diarrhœa and *Dysentery* are best and most speedily treated by the oxide of zinc.

In *Hysteria* the author remarked it a more reliable and efficacious preparation than the over-estimated valerianate.

In *Delirium Tremens*, when the morphia or cannabis has done its duty, the after-treatment by zinc is something to be observed rather than described; the constant dread, restlessness, and disturbed sleep are quickly overcome by the bracing agency of the drug.

When commencing the administration of oxide of zinc, care must be taken not to give it upon an empty stomach, as it produces a nausea which gives the patient a dislike to the drug, and an antipathy difficult to overcome by subsequent reasoning.

Art. 127.—*Ophthalmoscopic Signs of Constitutional Disease.**

By Ernest Hart, Ophthalmic Surgeon St. Mary's Hospital.

(*British Medical Journal*, August 8.)

In this highly interesting paper Mr. Hart classified the ophthalmoscopic signs of constitutional disease as follows:—1. Amaurosis with appreciable lesions at fundus of eye. *a*. From intra-cranial lesions: cerebral tumours, meningitis, encephalitis and ramollissement, cerebral apoplexy, phlebitis of sinuses, hydrocephalus, concussion and compression, lesion of cerebellum, changes in insanity. *b*. From diseases of spinal cord and general nervous system: myelitis, general progressive paralysis, locomotor ataxy, epilepsy, chorea, cerebro-spinal meningitis. *c*. Disturbances in the circulatory system: embolism, metastatic choroiditis, hæmorrhage, leukæmia, heart-disease. *d*. Syphilis. *e*. Tuberculosis. *f*. Disturbances in urinary system: albuminuria, diabetes, oxaluria. *g*. From the action of certain medicinal and other agents: tobacco, alcohol, opium, lead. *h*. From disorders of the female sexual organs: pregnancy, hysteria, suppression of menses. *i*. During acute diseases: diphtheria, intermittent fever, cholera. 2. Sympathetic amaurosis, with no appreciable morbid changes at fundus of eye: sympathetic functional or dynamic amaurosis. Mr. Hart enumerated the differential characters of the most striking of these forms of change; of which the time allotted only allowed him, on this occasion, to give a brief outline. The object

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association, held in Oxford August 4th, 5th, 6th, and 7th.

of the paper was to illustrate the value of the ophthalmoscope—by the light of recent researches and of over two thousand observations of his own—as an instrument of diagnosis, and of clinical and pathological research.

Art. 128.—*Veratrum Viride in Pericarditis.*

By J. Waring-Curran, L.K.Q.C.P.I.

(*The Practitioner*, August.)

Dr. J. Waring-Curran states that he has found this drug of the highest value in the treatment of pericarditis. The extract made by inspissating the juice of the root is the preparation he has invariably employed, prescribing it in two-grain doses, with one grain of calomel in the form of pill, every two hours, and carefully watching its effects. Its power of reducing the frequency of the pulse, and of increasing the renal and hepatic secretions, lead him to regard the veratrum viride as almost a specific for pericarditis. In cases of acute rheumatism in which pericardial symptoms began to be manifest, he feels assured "that the mischief was baffled by the early and careful exhibition of ten-drop doses of the tincture of veratrum viride in the asthmatic mixture."

Art. 129.—*On the Physiological and Therapeutical Action of Veratrum Viride.*

By M. Oulmont.

(*Bull. de Thérap.*, February, 1868; *New York Medical Journal*, September.)

M. Oulmont confirms by his experiments the conclusions of Mr. Scattergood of Philadelphia, that the physiological effects of veratrum viride are not due exclusively or mainly to the veratria it contains. Veratria causes first, nausea, vomiting and diarrhœa; second, slowing of the pulse and respiration, with diminution of the temperature, much less marked, however, than that produced by veratrum; third, excitement of the muscular system, showing itself by rigidity, spasms, and tetanic convulsions.

Veratrum viride and veratrum album, both affect the digestive, the circulatory, and the respiratory systems, in the same manner up to a certain point with veratria; they differ from it in the fact that they never produce any of the phenomena on the part of the muscular system.

Veratrum album differs from veratrum viride, in the extreme intensity of its action on the digestive system, shown by the violence and long continuance of the vomiting and purging, and by the well-marked inflammation of the mucous coat of the intestinal canal, caused by it. Second, by the rapidity with which it produces its effects; serious symptoms follow each other without interruption, and the animal dies

in from one to three hours. The dose of veratrum album which has caused death, has generally been less by one-half than that of veratrum viride, necessary to produce the same effect. Veratrum viride is not only safer but more uniform in its action.

Dr. Oulmont procured some resin of veratrum viride, entirely freed from veratria by repeated washings with acidulated water. A portion of this was injected into the thigh of an active rabbit. Before the experiment the pulse was 230, the respiration 92, and the temperature $39\frac{1}{2}^{\circ}$ C. In 1 hour and 35 minutes the pulse had fallen to 200, the temperature to 34° C. The animal was exceedingly feeble, and lay upon its side; it could neither stand or walk. The breathing was difficult and sighing; thirty-five minutes afterward the pulse was 140, the temperature 33°. The respiration was sometimes hurried, sometimes very slow (nine per minute). After an interval of an hour and ten minutes the pulse had risen to 180; respiration 24, temperature $32\frac{2}{3}^{\circ}$. The breathing was easier, but the animal lay on his side without motion; shaking him caused slight convulsive motions, during which he seemed about to die; he could neither sustain himself upon his paws nor his belly, but fell over on his side. Four hours and a half later the condition was the same, but the temperature had risen to $34\frac{3}{4}^{\circ}$. Eighteen hours afterwards, nearly twenty-six hours after the first injection of the poison, the animal seemed dying; the beat of the heart was feeble; pulse 120, respiration 36, temperature $26\frac{1}{2}^{\circ}$; (a fall of $13\frac{1}{8}^{\circ}$ C.) The animal was brought near a stove, wrapped in warm covering, and gradually recovered.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

Art. 130.—*On the Treatment of Secondary and Tertiary Syphilis by Hypodermic Injection of the Iodide of Mercury and Potassium.**

By M. Aimé Martin.

(*Gazette des Hôpitaux*, No. 107, 1868.)

M. Aimé Martin, though an advocate for mercurial frictions as a very useful, and in some instances the only successful plan of treatment for obstinate secondary syphilitic affections, still recognises the objection to them, that a constant attention and a great care is required on the part of the patient which it is not always easy to obtain. For this reason he reserves the friction treatment for exceptionally severe cases, and applies in ordinary cases a mode of treatment which can be more readily carried out. Struck by the immediate relief following the introduction of morphia into the subcutaneous tissues, M. Martin was led to enquire whether mercury, which is generally so ill tolerated by the stomach, and so badly absorbed, could not be administered in a similar way. The preparation he decided to employ was the iodide of mercury and potassium, procured in the following manner. A solution was made of four centimetres of biniodide of mercury in one gramme of distilled water, the salt being rendered soluble by the addition of iodide of potassium. The solution thus prepared is transparent, of a lemon-yellow colour, and with a slightly alkaline reaction.

The first patient upon whom hypodermic injections of this solution were tried was a man aged thirty years, who had had a chancre twenty-seven months before, which was followed by secondary symptoms. These had been treated by mercury administered internally, but with no good results. His trunk and limbs were covered by a papular eruption, the tonsils, tongue, gums, and oral surfaces of the cheeks were extensively and deeply ulcerated, the margin of the anus was surrounded by enormous mucous tubercles, and the inguinal and posterior cervical glands were much engorged. The tissues were pale and the muscles flaccid; there was a total loss of appetite, and an intolerance on the part of the stomach to mercurial remedies. On January 10, 1868, half a gramme of the solution was injected under the skin of the chest, near the middle of the sternum. The operation caused a sharp, smarting pain, which lasted for four or five hours, but was followed by no inflam-

* Paper read before the Société de Médecine of Paris.

matory reaction. After this the state of the patient became much improved. In the course of eighteen days the papular eruption diminished, the mucous tubercles disappeared, and the cervical and inguinal glands became smaller. Another injection at the same spot of two centigrammes of the biniodide on January 18, produced an unexpectedly favourable result. In the course of the next fifteen days all the bad symptoms described above almost completely disappeared. The patient was then submitted to a tonic treatment, and afterwards for a slight relapse of ulceration of the tonsils and the cutaneous papules, was ordered to take iodide of potassium and Von Swieten's solution internally. These remedies were well tolerated by the stomach, and caused a rapid disappearance of the lesions which were previously so tenacious.

Two other cases are reported in which severe general syphilitic affections were cured or much relieved by the hypodermic injection of the biniodide of mercury. In the second case, that of a woman aged twenty-six years, an injection of two centigrammes of the biniodide, at the inner and middle part of the left fore-arm, set up acute inflammation, which resulted in the formation of an eschar of the size of a twenty-centime piece. In the third case, two centigrammes of the biniodide were injected hypodermically over the middle part of the left trapezius muscle of a young man aged twenty-three. Acute pain was caused, but this soon ceased, and was not followed by any inflammation at the seat of puncture.

Art. 131.—*On those Secretions which are, and on those which are not, the Means of communicating Constitutional Syphilis.**

By Henry Lee, F.R.C.S.

(*The Lancet*, August 15.)

The author related typical cases of two distinct kinds of syphilitic infection; and dwelt upon the test of inoculation as distinguishing the two varieties. It was not every pustule, he observed, which was to be considered the true specific pustule; for he related the case, and showed the drawing, of a well-developed pustule at the expiration of fourteen days, produced by inoculating some simple pus from a case of incision of the knee-joint. Mr. Lee then referred to his original observations on the inoculation of matter from indurated sores. The conclusions at which he had come were that the secretions from indurated sores under irritation were sometimes inoculable: but that the inoculations differed from those performed from the secretions of suppurating sores. He next referred to the confusion that existed in the writings of those who professed to have given their attention to the subject: and instanced the Report made by the Committee on Venereal Diseases last year to the Secretary of State. After examining sixty-four witnesses,

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

and producing a report extending over upwards of 600 pages, the committee came to the conclusion that no one could tell whether a given local affection would contaminate the system or not. The committee described a local sore which did not infect the system, and a simple sore which did; but they drew no distinction between these two diseases, and the author of the paper thought that it was simply begging the question to say that a sore was local because it did not infect the constitution, and that it did not infect the constitution because it was local. A patient would find out for himself that a sore was syphilitic when he had secondary symptoms; and this was all the committee considered that a medical man could do. Mr. Lee, on the contrary, recognised two distinct kinds of disease, each of which followed its definite laws. There had been no instance, he observed, in which the inoculation of the secretion of the specific pustule, or the sore which resulted from this, had given rise to constitutional syphilis; and he explained the confusion that had arisen upon this subject by a quotation from Professor Owre, in which it is stated that, in the experiments upon syphilisation, no such care was taken in the selection of the matter as would appear from the printed statements, but that both kinds of matter were used indiscriminately. The author's conclusions were :—1. That the infecting form of syphilis is communicated by the secretions of both primary and of secondary syphilitic disease. 2. That the secretion of any other specific disease (including the secretion of specific pustule and the suppurating sore which results from it) has no power of imparting constitutional syphilis. 3. That the natural secretions of glands in syphilitic subjects, when those glands are not themselves specifically diseased, have no power of imparting constitutional syphilis.

As this is a subject of general interest, we append the remarks made by the President of the Section, Mr. Paget :—"Mr. Lee's paper seems to me," said he, "to offer a fair explanation of some of those cases in which secondary syphilitic affections have followed, and have appeared to be the consequences of, soft chancre. Such cases have occurred to most surgeons; and yet so rarely in comparison with those in which secondary symptoms follow hard chancre, that they seem insufficient to disprove the law according to which hard chancre or diseases derived from it are the necessary precedents of secondary symptoms, the sole sources of constitutional infection. A law of this kind, if there be one, can have no exceptions. What seem to be such must, if the law exists, be erroneously or incompletely observed facts. And here the incompleteness of the observations in some of the assumed exceptions may have been, as Mr. Lee suggests, that a patient has had a soft chancre at or about the same time as he has been infected from a hard chancre, the virus of which has traversed sound textures, and has produced in them too little change to be observed. It must have occurred to everyone seeing many cases of syphilis to meet with patients having secondary or tertiary symptoms, who have nevertheless been unconscious of having ever suffered with primary disease. Such cases are commonly explained away or disbelieved. They may have been instances of infection through textures which were not observably contaminated by the transmission of the infecting material through them. Such a transmission is sometimes observed with the poison of dissections; and although one may

doubt much of what some believe respecting the derivation of pus-cells from exuded white blood-cells, yet it is quite certain that pus-cells and others like them may pass through membranes having no visible apertures, and may leave no visible traces of their passage. The doctrine of essential difference between infecting and non-infecting, hard and soft, chancres is in the same position as many others in pathology. We seem to have discovered a general law: the facts in support of it are many; those against it are very few—we are justified in suspecting that these are incompletely or erroneously observed, and are not what they seem to be."

Art. 132.—*On Primitive Syphilis of the Lips.*

By Professor Segmund of Vienna.

(*Wiener Med. Wochenscrift*, xviii. 9, u. 10, 1868; *Schmidt's Jahrbücher*, No. 9, 1868.)

Syphilis of the mucous membrane of the mouth and jaws is recognised as a secondary or tertiary form of the disease commencing in the genitals or the region of the anus. Those cases on the other hand are rare in which syphilis most undoubtedly, or with a probability amounting almost to certainty, occurs as a primitive affection of the oral mucous membrane, especially the lips, and thence extends to the general system. Professor Segmund in 1865 called attention to the increasing frequency of affections of the lips of primitive syphilitic forms (indurations, papulæ, ulceration), and this opinion has been confirmed by subsequent experience in his own private and hospital practice. This observation has in addition to its importance with regard to pathology and treatment, a high social significance. From 1861 to 1867, seventy-three cases of these primary affections of the lips came under the notice of Professor Segmund; of these, thirty-two were presented at the hospital, and forty-one in private practice. These seventy-three cases of syphilitic affections of the lips occurred out of 5551 syphilitic patients. The disease was observed much more frequently in the upper than in the lower lip. The most frequent explanations as to the cause of the affection having been contracted were, in males, smoking and the use of certain tools, and, in women, the rubbing of a spoon against the upper lip, and also the habit of holding between the lips thin, sharp, and pointed instruments, such as are used in sewing, arranging flowers, drawing, painting, working in cardboard, and such like occupations. The position during sleep is a point of some importance; primitive and consecutive forms of syphilis are found with greater frequency on that side upon which the patient sleeps; the epithelium is macerated by the constantly collecting fluid. The syphilitic affections rarely occur in the lip only; as a rule other parts of the oral and buccal regions are involved. The lips are affected with slight abrasions and the several varieties of primitive ulcer, in the same way as the genitals. These affections of the outer parts of the lips, in consequence of the pain they cause, seldom pass unnoticed, whilst those in the interior of the mouth are often overlooked, and only

discovered when in consequence of extensive secondary affections the seat of primary inoculation is carefully sought for. It is worthy of remark that these affections of the lips occur in all ranks of society. Segmund passes over the special etiological reports appertaining to these affections, as they are in many cases doubtful, and moreover touch upon scandal. Labio-genital coitus could be clearly proved in some cases, and also in others contagion by means of paint brushes, tobacco pipes, drinking vessels, &c., was made out. The syphilitic affections of special importance to the practitioner are those produced through kissing. Any method of transferring syphilis to a healthy individual from the side of one previously affected at an earlier or later period, but evidently and to a superficial observer cured of the disease, is of the greatest importance, and even these methods have, according to Segmund's experience, occurred with great frequency, and form a very noteworthy but often neglected mode of origin of the infection. Great caution then is required in one's decision upon the perfection of the cure in oral forms of syphilis the signs of which are often so slight, that the uninitiated fails to regard them as sources of infection.

The treatment of the syphilitic affections of the mouth differs from that of similar affections of the genital and anal regions only so far as the local conditions require. The earliest possible cicatrization prevents a further extension of syphilis to other parts, and spares the patient much trouble. Ulcers situated on the lips should be cauterized with a solution of corrosive sublimate in absolute alcohol (one part to twenty), and afterwards covered with mercurial and soap plaster; cauterized patches in the oral mucous membrane should be covered with blotting paper. Small clefts heal rapidly with the employment of a salve of ammonia-chloride of mercury, one part to ten of lard.

Cauterization, occlusion, and the earliest possible healing of syphilitic affections of the mouth are, concludes Professor Segmund, of very great importance, because the tissue elements of the mouth, jaws, and fauces, loosened by the syphilitic infiltration, pass with greatest rapidity and readiness into the stomach and the general circulation of the nutritive fluids.

To give a proof of the possibility of such a mode of syphilitic extension Professor Segmund makes the observation that the severest and most obstinate forms of secondary and tertiary syphilis are met with in patients who have had or still have excessive lesions of the fauces and jaws.

Professor Segmund finally lays particular stress upon diligent cleanliness as an indispensable condition for the rapid healing of affections of the mouth.

Art. 133.—*On Lesions of the Tendinous Sheaths in Secondary Syphilis.*

By Dr. Fournier.

(*Gazette Hebdomadaire*, No. 41, 1868.)

1. The syphilitic pains vaguely referred *to the knees* are entirely produced in certain cases by tendinous lesions affecting either the liga-

mentum patellæ, or particularly the tendons of the *patte d'oie*, or again in some instances the extremity of the tendon of the biceps at the level of the head of the fibula, or perhaps even the tendon of the semi-membranosus.

2. The pains in the feet and ankles are generally due to similar lesions affecting the extensor tendons of the toes, the tendon of the extensor of the great toe, or the peroneal tendons.

3. The pains in the wrist and hands result generally from lesions affecting the extensor tendons of the fingers.

4. Those of the elbow, and particularly of its flexor surface, frequently have their true seat in the tendon of the biceps muscle.

The pain in front of the elbow occurs very commonly in secondary syphilis. Many patients complain of the suffering at the bend of the elbow, and of their inability to straighten the forearm. This symptom has been attributed to various causes; to muscular contraction, to arthralgia, to periostitis, or even to a tumour not appreciable. Dr. Fournier has in the majority of instances observed by himself been readily enabled to exlain the pain by a lesion of the tendinous extremity of the biceps. The finger pressed deeply into the region in front of the elbow over the tendon of the biceps, will excite at this point very acute pain, whilst all the adjacent parts will remain perfectly free from tenderness.

These tendinous lesions, described by M. Fournier, consist either in simple hydropsy of the tendinous synovial sac, or in a sub-inflammatory tendinous synovitis. Of their syphilitic nature there can be no doubt; from, 1, the frequency of these lesions in syphilitic subjects; 2, their production under circumstances and conditions always identical; 3, their almost constant coincidence with other undoubted manifestations of the diathesis, such as cutaneous or mucous syphilides, alopeciæ, and affections of the glands, joints, and head, &c.; 4, the absence of any other cause than syphilis to which they can be attributed.

Art. 134.—*On Hydropsy of the Tendinous Sheaths of the Digital Extensors in Secondary Syphilis.*

By M. Verneuil.

(*Gazette Hebdomadaire*, No. 39, 1868.)

1. Secondary syphilis may affect the subcutaneous and tendinous serous sacs as well as the articular synovial membranes.

2. This affection of the tendinous sheaths is revealed in the form of indolent effusions or hygromata.

3. These hygromata have as yet been observed only in the region of the hand, but should be sought for in the various subcutaneous serous sacs.

4. An internal specific treatment suffices in the majority of cases to cause a disappearance of the liquid effusion.

Art. 135.—*Treatment of Tetanus by large doses of Indian Hemp.*

By S. G. Chuckerbutty, M.D.

(*Indian Annals of Medical Science*, No. xxiv.)

Dr. Chuckerbutty submits a few cases in illustration of the treatment of tetanus by large doses of Indian hemp. Sir W. B. O'Shaughnessy, to whom is due the merit of introducing and recommending it, gave as much as one drachm of the tincture every half-hour, until the severe symptoms were checked, and then resumed the remedy as often as required by a return of the symptoms till the final cure. His wonderful success with it attracted for a short time the attention of physicians in India, in Europe, and America. Since then, however, the practice seems to have fallen into neglect. This has been due chiefly to the small and inefficient doses in which it was employed by others, and partly also to badness of the article used, and its combination with other drugs, which divided with it whatever benefit was obtained. The resin exported to foreign countries was largely adulterated, and in India some physicians gave it with aloes, some with chloroform, some with blue pill, and others with other substances. The cases related by Dr. Chuckerbutty show that no such combinations are necessary, and that alone and in large doses hemp is quite sufficient to meet every indication. When the bowels are constipated, the only other measures occasionally required are purges. Food, of course, must be given under all circumstances, but it must be light and liquid, to enable the patient to swallow it, as the locked condition of the jaws prevents the exhibition of solid substances, and the stomach is too weak to digest them.

Art. 136.—*On Operations for Caries of Bone.*

By F. Le Gros Clark, F.R.C.S., Surgeon to St. Thomas's Hospital.

(*British Medical Journal*, October 24.)

Mr. Clark's practice, and what he regards as the rational treatment of these cases, is embodied in the following passage, extracted from one of his Clinical Lectures, published in the *Medical Times and Gazette* for February 16th, 1861. "As regards operations for the removal of carious bone, I cannot say that my experience justifies my recommending the proceeding of gouging out the diseased texture. My belief is, that violence thus offered to the parts often involves the surrounding healthy bone in diseased action, and thus leaves the patient in a worse state than before. The condition is analogous to that of an excavated ulcer in soft parts, and seems to me to be more amenable to treatment adapted to such state. Sinuses may be freely laid open, and suitable dressing employed, to encourage a healthy action and spontaneous cure. But I am aware the weight of opinion, as regards the general practice, is adverse to this negative treatment."

Such has been Mr. Clark's practice for many years. He states that he has found considerable advantage in the use of diluted acetic acid (which he has latterly substituted for phosphoric) as a bone-solvent, as well as a stimulant in carious cavities which have been previously laid freely open by external incision.

Art. 137.—*The Treatment of Diseased Joints.*

By Holmes Coote, F.R.C.S., Surgeon to St. Bartholomew's Hospital; Consulting-Surgeon to the National Orthopœdic Hospital, &c.

(*On Joint Diseases; their Pathology, Diagnosis, and Treatment.*)

Mr. Coote insists that in the treatment of diseases of joints, surgeons should rely more upon the enforcement of complete rest, and of gentle, long, and patiently-continued mechanical treatment, and less upon the more violent surgical procedures.

Mr. Coote objects to any interference with a diseased joint whilst the malady is in the active stage He prefers that the limb should always be left in the semi-flexed position assumed by the patient as the most comfortable, and considers that any attempt to straighten it under such circumstances is faulty in principle, and only calculated to do injury by pressing together highly sensitive parts, and thus aggravating the suffering. Indeed, he proceeds to say:—

"I am no advocate for the forcible extension of joints, whether contracted or deformed, except in a few cases, where some very unyielding obstacle to *redressement* has to be suddenly overcome. The practice is of use after cases of rheumatic disease, when a bar of new bone prevents the proper movements of the limb, or where osseous union holds the bones in some abnormal position after all morbid action has subsided."

Art. 138.—*The Use of Compression in certain Surgical Cases.*

By C. H. Higgins, M.D., M.R.C.P. Lond., F.R.C.S. Eng., formerly Surgeon Somerset County and Birkenhead Hospitals.

(*Liverpool Medical and Surgical Reports*, October.)

The author presumes that few practitioners, to whom it has occurred to treat that common form of accident a "sprain," have not felt dissatisfied, if not humiliated, at the prolonged period which has intervened between the occurrence of the injury and the final recovery of the patient.

The plan which Dr. Higgins has pursued during the last four or five years in all cases of sprain is as follows:—immediately on seeing the patient, and satisfying himself of the nature of his accident, he plunges the injured joint, say the ankle or the wrist, which are the parts most

exposed to sprain, into a vessel containing water as hot as can be borne, and keeps it there for at least two hours, maintaining the temperature of the water by fresh quantities of the hot. At the end of the time specified, he finds the pain of the part considerably mitigated, and it is, of course, very greatly distended and swollen. Having next carefully dried the part, he proceeds *at once* to strap it, (if the ankle, from the toes to the middle of the calf, and if the wrist, from the fingers to the middle of the fore-arm), as *tightly* and *equally* as he can, with common adhesive plaster cut into strips an inch wide, placing each succeeding piece so as to overlap the preceding one by about a quarter of its width. The author always puts on two such layers, and finally he directs the patient to keep the horizontal position, on no consideration to meddle with the dressing, but if much pain or distress is set up to take an opiate on retiring to rest. Upon visiting his patient on the following day, he usually receives some account of a restless night during the first hours, but subsequently of sleep and diminution of pain, etc. The plasters are generally quite loose from the shrinking of the limb, which is moreover now said to be comparatively free from pain, unless handled roughly—though of necessity much discoloured; having removed the plaster, Dr. Higgins immediately replaces it by fresh strips laid on as firmly, evenly, and extensively as before; in short, exactly in the same way as on the first dressing, insisting of course on a continuance of the recumbent position. On the third day of the accident he repeats the process, this time, however, allowing two days to intervene, and he permits some movement about the room. At the end of the two days, he renews the plaster-dressing exactly as on the previous occasions, and generally for the last time, retaining this dressing until it loosens itself off, which usually occurs in three or four days, by which time the patient is able to use his limb, and is free from pain; in short, cured. Such is the author's proceeding in ordinary cases of sprain; where the accident is of unusual severity, he has had recourse to *six* relays of plaster instead of *four*, and up to the present time with equal success, though the cure is generally delayed three or four days or so longer.

Art. 139.—*Torsion of Arteries.**

By G. M. Humphry, M.D., F.R.S.

(*British Medical Journal*, August 15.)

In this paper Professor Humphry gave the results of his experience of torsion of arteries after operations, as well as the results of experiments on animals, and on the arteries of men and animals after death. For many months he has practised torsion after all operations, including three amputations in the thigh, amputations in the leg, of the breast, excision of the knee, etc. It has answered quite well. There has been no after-hæmorrhage in any of the cases; the wounds have healed more

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

quickly, and there has been less pain, than after the ligature. The operation is rather more troublesome, and requires more care and time, than the ligature. He simply seizes the end of the artery with strong forceps, and, holding the forceps in the axis of the vessels, twists till the portion included in the grasp is twisted off and the forceps are quite free. He believes this method to afford the greatest security, and does not recommend the practice of holding the vessel with a second pair of forceps above the part to be twisted. In the case of the smaller vessels, he strongly recommends torsion, as it enables the operator to secure any number without leaving in the wound any foreign substances or excitors of sloughing or suppuration. With regard to larger vessels, such as the femoral, additional experience is required before we can be assured that it is a sufficiently safe substitute for the ligature. In the process of torsion, as observed upon an artery twisted after death, the thick, inner, musculo-elastic coat is first severed, often as though it had been cut by a knife or ligature. As the torsion goes on, it is so compressed or squeezed by the twisting of the outer coat, that its divided edge is commonly turned up, reflected, into the tube of the artery, to a greater or less extent, as the resistance of the outer coat is more or less prolonged, forming a valvular or funnel-like projection into the vessel. Thus there are the two things—the inversion of the inner coat, and the twisting of the outer. It is upon the latter that reliance is to be placed for resistance to the flow of fluid from the vessel, inasmuch as its pressure causes and maintains the valvular inversion of the inner coat, and, further, by its own strength, offers a direct obstacle to the escape of the blood. This the professor has proved by injecting water, and connecting a column of mercury with the vessel.

Art. 140.—*The Torsion of Arteries as a Means of Arresting Hæmorrhage; with Experiments.**

By T. Bryant, F.R.C.S.

(*The Lancet*, August 15.)

The author commenced his communication by alluding to M. Amussat's original investigations on torsion made in 1829, and by giving some brief outline of the history of the subject. He noticed the earliest introduction of the practice into England by Mr. Costello in 1834, and expressed his belief that the practice had not been generally accepted because it was introduced before its time—that is, before the introduction of chloroform. He recognised the fact that within the last few years surgeons have become clearly dissatisfied with the application of the ligature to divided vessels, and enumerated the objections which have been brought forward against the practice. He gave full credit to Sir J. Simpson for having prominently brought forward the subject before the profession, and for having suggested his plan of acupressure, which is now

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society.

under trial by the profession. He stated also that it was from Professor Syme's letter to *The Lancet* of January 4th that he had been induced to inquire into the subject of torsion and to make his experiments. The two methods by which torsion may be practised were then described—the "free" and the "limited." In "free" torsion, the end of the artery should be fixed by a pair of clasp forceps, and twisted freely. In "limited" torsion, the artery, having been drawn out of its sheath, should be fixed transversely about three-quarters of an inch from its divided extremity by a pair of clasp forceps, and held steadily; whilst with a second pair of forceps the free end of the vessel should be twisted freely, as in the former kind. The object of the first pair of forceps being to fix a limit to the twisting of the vessel, and prevent the artery being separated for any distance from its vascular attachments. Three or four complete revolutions of the forceps are enough for small arteries, six or eight for large. The author then passed on to relate his experiments on animals. The first six were upon the carotid and femoral arteries of the dog. In all free torsion had been employed to both ends of the divided vessel, and in all with success. The seventh and eighth experiments were upon the carotid artery of the horse. In these limited torsion was used, and in both with success. In all these instances the animals were subsequently destroyed, and their vessels carefully examined. Special notice was then drawn to the particulars of a case in which the author had applied torsion to the brachial artery, in its upper third, of an old woman aged sixty-eight. The torsion proved quite successful, but the patient died from thoracic complications, and this allowed an opportunity of observing the changes the artery had undergone. The physiological conditions of the arteries which had been subjected to torsion then received attention; the results of every experiment were carefully described, and the different points illustrated by drawings and preparations. The results of numerous experiments upon the arteries of the dead subject, both healthy and diseased, were then given, and these went to confirm in every respect the observations obtained from these experiments made upon the living. A careful *résumé* of the physiological effects of torsion was then made. Some remarks upon the experiments followed, and a comparison was drawn between the effects of torsion on the vessels, and the ligature, and acupressure. Some practical points connected with the application of torsion were noticed, and the necessity of employing right instruments was enforced. A general summary of the whole subject was then made, and the following conclusions read:—1. That hæmorrhage may with certainty be arrested by torsion from even the largest vessels. 2. That it is a safe and judicious practice in all cases in which the vessels are small or of moderate calibre; and that, as far as experiments and practice yet prove, it is equally so in arteries of the first magnitude. 3. That torsion may be "free" or "limited," the free method being applicable to vessels of moderate size, and even to the largest of the extremities, limited torsion being more adapted for the large and loosely-connected vessels. 4. That in torsion, as in the ligature, the permanent hæmostatic processes are alike due to the sealing of the divided inner and middle tunics; but that in the ligature there is only an irregular division of these tunics, whilst in torsion

there is a complete division, separation, retraction, and valvular incurvation. 5. That in torsion the twisted cellular coat forms, with the retracted and incurved middle coat, the direct mechanical obstacle to the flow of arterial blood, in the same way as the compressed cellular coat does in the ligature, but that in torsion the twisted cellular coat and incurved middle coat become subsequently a permanent means of occluding the end of the artery, whilst the ligature of necessity becomes subsequently a source of irritation, and too often a means of undoing what has been done by nature's own hæmostatic processes. 6. That in torsion the twist in the cellular coat of an artery, the division and subsequent retraction, incurvation, and adhesion of the middle coat, and the coagulation of the blood in the vessel down to the first branch, are the three points upon which its temporary as well as permanent safety depends, whilst the permanent safety of acupressure rests upon the last point alone, and its temporary effects upon the pressure produced by the needle. 7. That there is every reason to believe that when torsion has been successful on its first application, the fear of subsequent hæmorrhage is altogether groundless, for there is nothing, as there is in the ligature, to interfere with the physiological processes set up by nature to occlude the divided vessel, and, unlike acupressure, the temporary obstacle to the flow of blood becomes a permanent one. 8. That upon physiological grounds torsion has decided advantages over the ligature and the acupressure-needle, and that if subsequent experience confirms what has been hitherto observed in the experiments on animals and the application of the practice in the human subject, we shall have gained a point of no mean importance, and simplified surgery in no slight degree. The paper was concluded by the author stating his belief that the practice was a safe and valuable one in many cases, if not in all; that it was not a crude idea, based upon a theory spun out of a fertile imagination, for it had its origin in observation of nature's own processes; that it was based on the well-recognised physiological principles of natural hæmostatics; and that it was artificial only so far as the surgeon's art was employed in rendering these processes most available. Models, drawings, and preparations were freely used to illustrate the subject.

Art. 141.—*The Relief of Pain in Open Cancer.*

(*The Lancet*, August 8.)

The exquisite pain which belongs to open cancer is found to be best relieved by the stramonium ointment, which is employed in the Middlesex Hospital. The following is the formula for this in the hospital pharmacopœia:—Half a pound of fresh stramonium leaves, and two pounds of lard. Mix the bruised leaves with the lard, and expose to a mild heat until the leaves become friable, then strain through lint. The ointment thus prepared is spread upon lint, and the dressing changed three times a day.

Art. 142.—*On the Treatment of Cancerous Tumours by Injections of Acetic Acid.*

By Professor Buntzen.

(*Hospitals Tidende*, No. 19, 1867; and *Schmidt's Jahrbücher*, No. 7, 1868.)

Professor Buntzen reports four cases of cancerous tumours, which he has treated according to Broadbent's plan. A fifth case is added in which the same plan has been carried out by Dr. Heyn.

Case 1.—The patient was a female, forty-four years of age, whose right mammary gland had been removed eighteen months before in consequence of a cancerous tumour, which had existed for many years. The operation was followed by two relapses, in consequence of which another large tumour was first removed, and afterwards a smaller growth, situated in the centre of the extensive cicatrix. Six months after the last operation there was formed in the cicatrix a prominent rounded growth, which was dark-coloured and melanotic, elastic, fungoid, circumscribed, and presenting all the characters of the former tumours. At intervals of nine days injections were made of a mixture of one part of acetic acid with two parts of distilled water; of this from four to six drops were injected into the tumour at each sitting. The tumour was neither distended nor painful, but from the seat of puncture there was a discharge of thick fluid mixed with detritus. In the course of a few days the mass of the tumour became soft, and soon felt like a cyst, containing but a small quantity of fluid, the cicatricial tissue became thin, and was broken at the centre of the tumour, but without any perceptible suppuration. The tumour then came away without leaving any sensible hardness in the adjacent tissues. During the whole time of the injection treatment the patient never suffered from any troublesome severe pain.

Case 2.—A woman thirty-five years of age, of cachectic appearance, had in her right mamma a very hard scirrhous tumour, with an irregular surface, of the size of a goose's egg, and closely adherent to the superjacent integument. Five injections were made at intervals of a few days, and these resulted in the central parts of the tumour becoming soft, and in a discharge of a thick fluid mixed with detritus from the seat of puncture. The tumour gradually diminished, but did not disappear altogether. The patient then left the hospital with the intention of undergoing treatment at a later period. As this case was one of those which are complicated with scirrhous tubercles of the skin, and as these tubercles were scattered over the surface of the breast, Professor Buntzen excised the whole of the mamma, since it was impossible to remove the extensive affection by any other means.

Case 3.—This patient was a girl twenty-three years of age, whose left mamma had been removed two years before in consequence of a cancerous tumour. A tumour subsequently developed itself in the axilla; this was of the size of a walnut, round, hard, and moveable. Five or six injections were made into this growth, and caused it to swell and become painful. The tumour visibly softened and diminished in size; before it had disappeared the patient returned to her home.

Case 4.—On the tibia of a woman aged seventy was developed a soft and painless tumour of considerable size, which was covered by varicose integument; this had grown rapidly, and was evidently of a medullary nature.

Repeated injections of twenty drops of acetic acid injection were tolerated by the patient, but were followed by no results. As this tumour was as large as the closed fist, and had deep-seated connections, Professor Buntzen considered the prognosis very doubtful.

Case 5.—Dr. Heyn was consulted by a young man, on one side of whose lower lip an epithelial growth of the size of a hazel nut had developed itself in the course of the preceding fourteen days. There was no ulceration, and but slight induration in the submucous connective tissue of the lip; the lymphatic glands were not swollen, and the general condition of the patient was good. Sixteen drops of common vinegar were injected into the submucous connective tissue, as close as possible under the tumour. This caused severe pain, which, however, was soon relieved. The tumour increased to the size of a pigeon's egg, and remained in this condition for four days. Ten days later the tumour came away, but there still existed on the lip a more recent growth, and several condylomatous protrusions. To these charpie saturated with vinegar was repeatedly applied. After some days the last layers of diseased tissue came away, and left an unclean ulcer about one inch in length, and three-eighths of an inch in breadth, which had a diphtheritic appearance. Vinegar was again injected, which did not produce such severe pain as on the former occasion, but again caused considerable swelling; this, however, soon diminished, the ulcer commenced to put on a healthy appearance, and was then brushed over with oleum cadinum and glycerine. The ulcer gradually healed, and at last no trace of the previous affection could be recognised, save a very slight swelling. The epithelium of the lip was in its normal condition.

Art. 143.—*An Illustration of extensive Cancer, traceable to Dispersion from the Primary Tumour, as distinguished from its Constitutional Reproduction.*

By Charles H. Moore, F.R.C.S., Surgeon to Middlesex Hospital.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October, 1868.)

After describing the different modes in which cancer is disseminated, Mr. Moore relates the case which forms the subject of his paper, and in which the communication between the cancer and the surrounding parts was maintained by the agency of a creamy liquid, and the continuity of distant tissues with the original disease was maintained.

The patient was a woman, aged forty-eight, who suffered from a rapidly-increasing tumour of the left breast, which soon formed an ulcer. There was a cluster of enlarged and moveable glands in the axilla, and a firm and globular gland was felt above the clavicle and behind the sterno-mastoid muscle. An operation was performed with the view of relieving local suffering and temporarily arresting the growth of the tumour, and the knife was employed in the usual way, care being taken to remove with the tumour all the thickened integument as well as the diseased axillary glands. In about two months and a half the wound was entirely healed, but two small, hard nodules were perceived below the cicatrix; and in about two months more six

tumours were observable under the skin below the scar. But Mr. Moore specially draws attention to the fact that above the scar the integuments were pale, flat, and supple, and the supra-clavicular gland behind the sterno-mastoid was not larger than before the operation. The disease again spread rapidly in all directions, but the contrast of the appearances above and below the scar was still very striking, the tumefaction and discoloration being much more marked below than above. Death ensued in a few months more, and it was then found that the body was not emaciated, and the muscles were well nourished. The diseased mass presented a creamy whiteness, and the surface, when cut or squeezed, yielded abundantly a perfectly white juice resembling cream. The disease was found upon microscopical examination to be cancerous, and the milky or creamy fluid contained numerous oil-globules. From the examination of the organs affected with the disease, Mr. Moore infers that after the operation was performed, and a tough, transverse scar was established across the left side of the chest, the lymphatic current was temporarily arrested in its course upwards, but was conducted downwards into the lower part of the left side of the thorax, and subsequently to the bronchial glands, diaphragm, and liver, which last, however, presented only one cancerous nodule. The mesenteric glands were not affected, and hence the patient was maintained in a state of general good nutrition. Mr. Moore considers that in this case the disease was nourished from healthy blood, and that the whole source of the cancerous impregnation was derived from the left mammary region, whence alone the oily products overflowed the tissues.

Art. 144.—*A Ready Means of Applying Chloride of Zinc in Cancer.*

By Weeden Cooke, M.R.C.S., Surgeon to the Royal Free and Cancer Hospitals.

(*The Practitioner*, No. 3, September.)

Following a plan adopted in some hospitals, of steeping lint in solution of sulphate of copper and liq. ferri perchlor., and afterwards drying it, Mr. Cooke has been substituting chloride of zinc for these substances, and finds the preparation most convenient for application.

"The chloride of zinc, being a highly deliquescent salt, requires scarcely more than exposure to the air to render it liquid; at least a very few drops of water will quickly produce this effect. The lint is thoroughly soaked with this liquid, and hung up for a short time. It does not dry so completely as the iron or blue lint, owing to the deliquescence of the zinc. It preserves its active properties for weeks, if kept in a wooden or pasteboard box, such as a Seidlitz-powder box. An old pair of scissors should be kept for cutting it, and forceps coated with vulcanite may be employed in its application or removal. The great convenience of the chloride of zinc lint is that the smallest pieces may be used, even to a wart or pimple, or to parts, such as the eyelids,

to which it would be almost impossible to apply the old paste. There is also the advantage of confining the caustic effect absolutely to the part to be attacked. I have used it to those stubborn indurated ulcers at the inner canthus, be they lupus, rodent ulcer, rodent cancer, or what not, as well as to the upper and lower lip, and other parts of the face, with the greatest advantage; and have obtained better results than formerly, because of the power of adapting the application exactly to the size of the eschar required, and the ease of keeping the lint on as need be, and reapplying it as often as may be necessary with very little discomfort to the patient. It being always ready, the surgeon in going round his wards may himself apply this lint to a commencing slough, either in a cancerous breast, or an ulcerated leg, or a bed-sore, or a phagedæna, and at once check that which otherwise may give much trouble to stay. I had occasion to enucleate a large epithelioma from the parts about the umbilicus, which dipped down so deeply as to render it probable that it had reached the inner wall of the abdomen. An eminent surgeon advised removal by the knife, but the patient objected, and I set to work with some trepidation to remove it by means of the chloride of zinc. There being a large surface to destroy, I used at first the paste, taking away every other day the dead portions; some little bleeding occurred when these were removed, but by means of the iron lint it was readily checked. It was not possible by any amount of packing round the diseased part to prevent very troublesome excoriation of the healthy parts; and so, at the latter part of the treatment, it occurred to me to use the lint as I have above described. It answered perfectly, and the whole of the cancerous mass was removed, leaving a red healthy granulating surface, which soon healed by the application of resin cerate. In a very curious case, which seemed to combine the appearances of keloid and encephaloma, I have recently been able to discharge from the hospital to resume her usual occupation, after a twelvemonth's residence there, a patient upon whom I had twice operated by means of the écraseur for large growths of a soft spongy character, having an extended horny base. These soft excrescences reappeared, and I finally attacked them with the zinc lint so successfully, that for a time at least there seems a prospect of immunity. For uterine purposes, also, this convenient method of using chloride of zinc is much to be commended. Passed up through the speculum to the diseased part, and covered by a further plug of dry lint, it does its work, if properly measured for the part to be destroyed, without injury to the healthy tissues."

Art. 145.—*On the Immediate or Remote Consequences of Traumatic Lesions of Nerves.**

By M. Paulet.

(*Gazette Hebdomadaire*, No. 18, 1868; and *L'Union Médicale.*)

The first experiments on this point of surgical physiology were made by Cruikshank in 1776. This English anatomist proved that section of

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* Memoir presented to the Société Imperiale de Chirurgie.

a nerve is followed, after a certain time, by re-establishment of the physical continuity and of the function of this organ. These experiments were subsequently confirmed by the researches and observations of many British and continental authorities.

Since the year 1838 it has been demonstrated and almost universally admitted that the motor and sensory functions of any nerve in the body may be re-established after section of that nerve.

Various opinions have been given on the subject of the mechanism of this physiological restoration. According to most authorities, the divided nerves regain their continuity and normal anatomical structure.

According to Delpech and Monteggia, the two ends of the nerve-trunk remain separated by cicatricial tissue, capable of transmitting sensory impressions and exciting voluntary movements.

Finally, Callosen, Baudens, Herteloup, Hutin, Breschet, and Pigné admitted that the functions were re-established, not by the divided cord, but by the anastomoses of its peripheral branches with adjoining nerves, and by an increased action of the latter.

For the last thirty years physiologists have acknowledged the following points:—

1st. That after section or resection of a nerve, the continuity of the injured trunk is re-established by a nervous substance identical with the normal tissue; in short, that there is a true regeneration of nerve-tissue.

2nd. That this regeneration of nerve tissue is the *conditio sine quâ non* of the return of the function; so that this will not be established if the two ends of the nerve remain isolated, or if they united merely by simple cicatricial tissue.

Since 1850, the study of the restoration of nerves has been carried into a new direction by Waller, Schiff, Kölliker, Brown-Séquard, and others, who endeavoured to follow, step by step, the actions carried on in the nerve fibres from the time of section until every trace of the traumatic lesion had disappeared.

The following points were established by these observers—

1st. The peripheral extremity of a divided nerve inevitably undergoes a degeneration, the essential characteristics of which are a fatty transformation and absorption of myeline.

2nd. This degeneration is followed by an inverse regeneration, which consists essentially in the reappearance of myeline.

3rd. Until these two phases have been accomplished, any return of function is impossible.

Flourens and Brown-Séquard have demonstrated that regeneration is possible even of portions of the nerve centres.

What is the minimum time in which this nervous regeneration can be accomplished? In what limits is it possible? Under what circumstances does it fail? What are the circumstances preventing or favouring it?

When section or resection of nerves has been performed, a month is generally required for the regeneration of the nerve fibres at the peripheral end to be accomplished; but the reunion of the two ends by a nervous cicatrix and the re-establishment of the function requires a much longer period. In the most favourable cases, when either a simple

section is made or about a centimetre of the tissue is removed, not less than from three to four months is required. When there is a greater loss of substance, five or six months, a year, and even a longer period passes before sensibility and voluntary movement have regained their integrity.

When the loss of substance exceeds three centimetres, the two ends of the nerve remain altogether independent, or are united merely by a cord of connective tissue without traces of nerve fibres; in both cases the function is never re-established.

Such is the rule in man and adult animals; but exceptions occur when the nerves are reseeted in very young animals, or when, in man or adult animals, resection is followed by suture of the divided nerve.

The younger the animal, the more likely is nervous regeneration to be accomplished, when the ends of the divided nerve are separated to a smaller extent, or are maintained in perfect contact, and when the extremities of the nerve are bathed for a shorter time in pus.

M. Paulet has sought out the cases of neurotomy reported in books and periodicals. From his long-continued and laborious researches, and also from a very interesting case of his own, it appears that clinical observation is at complete variance with the rules so precisely laid down by physiologists.

The facts contained in his Memoir are remarkable. In some instances the re-establishment of the nervous functions took place within the period fixed by physiologists; and in others, sensibility and move ment were restored, although the loss of nerve substance could not have been repaired.

The author arranges these facts under two chief heads—1. Those of neurotomy by simple section; 2. Those of neurotomy with resection.

At the head of the first group he places cases in which the two ends of the injured nerve were maintained in contact by suture. He alludes to the case of suture of the median nerve communicated by M. Laugier to the Académie des Sciences, in 1864. From the very day of the application of the suture, sensation and movement, which were completely abolished before the operation, commenced to be established in the parts of the hand supplied by the branches of the median nerve; this return of sensibility and movement became more and more marked, and at the end of three months the functions of the part were re-established, although not completely.

An analogous case was reported in the preceding year (1863), by M. Honel. A young woman, under the care of M. Nelaton, had a neuroma removed from the median nerve, the two divided ends of which were brought together by suture. After a few days, sensibility and movement returned in the parts of the hand supplied by the median nerve.

It was thought by MM. Laugier and Honel that there was immediate union in these cases. This interpretation is rejected by M. Paulet, for the reason that immediate union has never been observed by the most competent physiologists after division of a nerve. According to Paulet, there was a rapid restoration, not an immediate union.

He concludes from these facts that the function of a divided nerve

may be re-established, although the two ends may remain independent of each other.

By the side of those cases in which the two ends of a divided nerve have been maintained in contact by suture, may be ranged those to which a large nerve-trunk has been tied by a ligature. Two cases, one reported by Richerand, the other by Descot, prove the complete re-establishment of function after ligature in a space of, in one instance, fifteen days; in the other, of two months.

MM. Schiff, Philippeaux, and Vulpian have seen nerve regeneration accomplished in seven, thirteen, and seventeen days, in very young animals a few days after birth. M. Magnieu, in operating upon adult animals, noticed in two cases, out of twenty-five experiments, regeneration; and re-establishment of function between the eighth and twentieth day after simple section of a nerve-trunk and the reunion of the two ends by suture.

Mr. Paget, in his "Lectures on Surgical Pathology," cites two cases in which sensibility returned on the fifteenth day, although no care was taken to bring the cut ends of the nerves into contact. M. Paulet thinks that in those cases the function was re-established by some other than the normal way. In support of this opinion he cites cases in which the functions of a nerve were re-established, although there was clear proof that the continuity of its trunk was interrupted.

In a case reported by M. Richel, there was a large wound on the front of the forearm, by which the median nerve was cut through. After assuring himself that there was complete division of the nerve, the surgeon, commencing to investigate its effects, was surprised to find that the patient had preserved the tactile sensibility of the thumb, and index, middle, and ring fingers.

Not less curious is the fact reported by M. Baudens, in which sensibility persisted in spite of section of all the terminal branches of the brachial plexus, except the radial nerve. Another case has been reported by MM. Leudet and Delaboit, of an individual whose median nerve was completely divided, and in whom it was demonstrated by post-mortem examination thirty-seven years later, that continuity had never been restored; the sensibility of the parts supplied by the median nerve having been preserved during the whole of that time.

In the preceding cases the nervous function was re-established four times before within the period considered by physiologists as indispensable; that is to say, at a period when it was impossible for the two ends of the nerve to have become united by a cicatrix permeable by the nerve current; in three instances the function was re-established, although it was visibly demonstrated that the peripheral extremity of the nerve remained separate from the central extremity.

In eighteen cases of neurotomy collected by M. Paulet, where a portion of the nerve was resected, the functions were sometimes re-established within a very short period; at others after a long time. In the latter case the loss of substance in the nerve-trunk was equal to three or four inches, and excluded every possibility of restoration, according to the laws laid down by physiologists. Finally, in certain cases the resection of an important nerve causes no disturbance either

in the sensation or in the voluntary movements of the part supplied by the trunk.

M. Paulet declares that the explanations of restored nervous function after neurotomy given hitherto by physiologists are insufficient. The re-establishment of the continuity of a nerve cannot be made to account for those instances in which function is re-established within the period at which complete restoration of the nerve-trunk can be accomplished, according to the laws laid down by experimental physiology; still less for those in which the return of the functions of the nerve takes place, although the two ends of the divided nerve have never been reunited.

The autogenetic restoration of the peripheral end does not explain the phenomenon, since so long as this end remains isolated from the centre it is impossible to conceive how excitation of its terminal branches can give rise to a sensation received by the cerebrum.

The old theory, abandoned for the last thirty years, by which it is admitted that the nervous functions are re-established through anastomoses, does not, according to M. Paulet, render a sufficient account of the clinical facts.

According to Müller, when one part of the body is supplied through anastomoses of different nerves of the same function, paralysis of one of these nerves will cause partial loss of sensation in the organ supplied, since the sound nerve cannot maintain the sensibility of the whole part, and the number of points which remain sensible will correspond to those supplied by the primitive fibres which remain intact.

M. Ch. Robin has made out in the fingers that the nerve filaments which are lost in the touch body take their origin from terminal loops formed on one side by the median nerve and on the other by the radial. This fact will explain the cases of MM. Laugier and Richel, and several others.

It has been observed in stumps that anastomoses are established between the terminal extremities of nerves; the neuromata formed after amputation sometimes contain a great number of nerve fibres, which cross in every direction, and become continuous with the fibres of adjacent nerves.

But if there be normal and permanent peripheral anastomoses, why is it that their functions are not immediately manifested after the section of a nerve-trunk? Does the disturbance caused by an injury act at once upon all the nerves of a limb? Is a certain delay required before the nerve current can follow another path, in the same way that the circulation is not re-established for several days in all the collateral branches after ligature of the principal artery? In this way one may explain those cases in which, after a short paralysis, the functions are regained; but how are those instances to be accounted for in which paralysis persists for several months after the removal of a portion of nerve eight or ten centimetres in length?

In order to find an answer to all these questions, M. Paulet has made experiments upon animals. He divided and resected nerves without finding any important result; and he remains convinced, until there is proof to the contrary, that physiologists will not reveal the required explanation by means of experimental research. The determination

of the gradual return of cutaneous sensibility is a delicate investigation, which is capable of ending in a successful result by observations in man alone; the chief condition being that the patients are sufficiently intelligent to give a precise account of their sensations, and have no interest in deceiving the observer.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 146.—*On the Treatment of Baldness.*

By M. HARDY.

(*Medical Times and Gazette*, August 8.)

M. Hardy, the eminent dermatologist and physician to the Paris Hospital of St. Louis, in an excellent article on this subject, points out the diagnostic means by which we may decide whether a case of baldness is hopeless, or whether it is likely to yield to treatment. He regards those cases as the most favourable which are consequent on chlorosis and on the anæmia which not uncommonly follows childbirth and severe acute diseases, when the falling off of the hair is due to general debility. While the preparations of iron and bark, nourishing diet, country air, the shower-bath, and other general tonic measures should be prescribed, local means should also be adopted. The first step in this direction is to cut the hair so short as not to exceed a centimetre (two-fifths of an inch) in length, and to repeat this process two or three times at intervals of a fortnight or three weeks. Stimulating ointments or lotions may then be prescribed. He simply alludes to the preparations of cantharides, and specially recommends lotions containing spirits of rosemary or castor oil, followed by a pomade containing one-twentieth of its weight of tannic or one-thirtieth of gallic acid; and he has often seen great benefit derived from the use of a pomade consisting of sixty parts of beef marrow, thirty of castor oil, and three of gallic acid.

ART. 147.—*Deep Ulcer at the Base of Arytenoid in a Married Woman Infected by Child Bearing, never having had Primaries.*

By JOHN MORGAN, F.R.C.S.I., A.M., T.C.D., Surgeon to the Westmoreland Lock Hospital.

(*Medical Press and Circular*, October 14.)

The following case is related by Mr. Morgan:—

"R. D——, aged twenty-six, a married woman, admitted August 31, 1868, mother of two children, one two years old, another born one year since, but died, when eleven weeks old, of infantile syphilis. Two months after the birth of the first child she had sore throat and pains in the head, and in about four months she got a sore on the head over the frontal bone, which healed after treatment; she remained well till

after the birth of the second child, when, in about three weeks, she got sore throat, and about nine months after got secondary sores on the arm, chin, eye, and head, over the parietal region; she never had joint pains or rash, primary sore or bubo; she is hoarse now for four months, is losing flesh, and has been under treatment for these affections for one year and nine months. The chest sounds are perfect.

"On laryngoscopic examination, a well-marked deep ulcer like a chink is seen at the base of the right arytenoid, near the attachment of the false vocal chord; the mucous membrane generally in the neighbourhood is congested looking and tumid.

"*Treatment.*—The parts around and the ulcer were brushed with nitrate of silver solution, gr. xxx. ad. ℥j., and every third day touched with tannin solution, gr. xxx. ad. ℥j. Iodide of potassium in large doses administered. The improvement after three applications to the larynx was remarkable, though the ulcer, from the mobility, probably, was rather refractory.

"This case," Mr. Morgan adds, "is an interesting example of intermediate infection by child-bearing, and the more complete affection of the system after the birth of the second child. She is now again about four months pregnant. Discharged cured September 26."

Art. 148.—*Nævus in the Eyelids.*

By Charles Bader, Ophthalmic Assistant-Surgeon to Guy's Hospital.

(*Natural and Morbid Changes in the Human Eye.*)

With regard to the treatment of nævus about the eyelids, Mr. Bader writes, ligature and injection of the tincture of perchloride of iron have been followed by sloughing of the eyelid. The safest and quickest method is to completely remove the nævus by operation, if its size and situation permit. The part may be rendered insensible by the ether spray.

Another effectual method of treatment consists in the destruction of the nævus by means of the galvanic current. Next to this can be recommended the insertion of stout silk threads, previously moistened with the tincture of perchloride of iron. Due regard must be paid to the portion of the eyelid we operate upon, in order to avoid disfigurement, displacement, &c.

Art. 149.—*Emphysema of Eyelids of the Left Eye caused by an old Fracture of the Nasal Bones.*

(*Gazette des Hôpitaux*, No. 58, 1868; and *Edinburgh Medical Journal*, Oct.)

A man aged forty-six came into the wards of the Charité under M. Gosselin's care. He had sustained a severe fracture of both nasal bones, with considerable displacement, twenty-two years before, while in the army. He had since then been perfectly well till the day before admission, when all at once, without any cause, he lost some blood from

the left nostril and by the angle of the eye. At the same time both eyelids of the left eye swelled up with great rapidity, and he could no longer open his eye. He was very much alarmed. M. Gosselin made out that the swelling was less resistent, less elastic, and more easily indented than inflammatory swelling, while it pitted still more easily, and was less doughy than mere œdema. He also by a very simple means which he always employs, detected the peculiar sound due to the presence of air beneath the skin. This method is a fillip with the finger (*procédé de la chiquenaude*). He thus diagnosed an emphysema of the lids, and accounted for it by the theory that the old injury had left some sharp fragment of bone adhering to the nasal or lachrymal mucous membrane, which by some strong pressure with the handkerchief had been dislodged, and forced through the nasal mucous membrane. The patient was recommended caution for the future in the use of his handkerchief.

Art. 150.—*A Case of Sympathetic Ophthalmia cured by Neurotomy: a Substitute for Removal of the Eyeball.*

By J. Z. Laurence, M.B., F.R.C.S., Surgeon to the Ophthalmic Hospital, Southwark, and to St. Bartholomew's Hospital, Chatham.

(*The Lancet*, November 14.)

Mr. Laurence lays before the profession the following successful case:—

"T. S——, aged twenty, was admitted into St. Bartholomew's Hospital, Chatham, under my care, on June 20th. Twelve years previously a piece of steel had struck his left eye. He had still perception of light; sclerotitis and cyclitis were present. By means of a probe, it was found that the most tender part of the ciliary region was situated downwards and outwards. The tension of the globe was normal. He complained of great intolerance of light in the uninjured eye—the right one; as soon as he fixed this upon any object pain and watering ensued, so that the eye was practically useless to him for any near occupation; but for distant objects his vision was found to be perfect (S=1). On the 22nd I made an incision of about half an inch along the tender part of the ciliary region of the primarily injured eye; a little vitreous escaped.

"Aug. 3rd.—Left the hospital perfectly cured. He could now read for hours together with comfort with his left eye, and all traces of the trifling operation on his right eye were gone.

"On October 24th a letter was received from the patient, stating that he could 'read for five or six hours at a time without any pain whatever;' that he is engaged in 'steel-turning, which is very trying to the eyes, but is happy to say that it does not affect him but very little.' The eyes do not water. He finds working by gas-light painful, but day-light does not affect the (right) eye in the least. He finds objects appear to him 'closer than they really are.'"

Art. 151.—*On Pigmentary Retinitis.*

By Dr. E. Mouchot.

(*Gaz. des Hôp.* No. 113.)

Pigmentary retinitis exists as a morbid entity, and consists in a chronic inflammatory affection of the retina.

It is characterized by three symptoms, which, when they are united, carry the diagnosis to the highest degree of certainty. These three symptoms are—nyctalopia, contraction of the visual field with conservation of central vision, and the presence in the retina of pigmentation of a characteristic form.

Pigmentary retinitis sometimes exists without the presence of pigment; this form will frequently follow the well characterized pigmentary retinitis.

The affection progresses very slowly; it generally commences in youth, and towards the age of forty or fifty years, or sometimes later, it ends in complete blindness. The diagnosis is very easy when the three chief symptoms are presented.

Pigmentary retinitis is a very serious affection, as it leads sooner or later to complete loss of vision.

Nothing certain is known about the causes of this affection. Often no explanation can be given of its appearance by the condition of the patient. Pigmentary as yet is an incurable affectives. Alteratives do more harm than good; tonics, steel particularly, seem to have given satisfactory results.

Art. 152.—*On the Diagnosis of Diseases of the Eye by Retinal Chromatoscopy.*

By Dr. A. Galezowski.

(*Gazette des Hôpitaux*, No. 79, 1868.)

Anomalies in the faculty of perceiving and distinguishing colours have been recognised for a long time. Scientific men in all countries, and at different epochs, have pointed out this congenital visual defect, and given to it various names, such as Daltonism, from the physicist Dalton, who was himself the subject of this infirmity, achromatopsy (Heling), akianoklepsia (Goethe), colour blindness (Brewster), dyscromatopsy (Taylor).

All these authorities, however, spoke merely either of the congenital condition of Daltonism, or of colour blindness.

M. Galezowski has endeavoured to demonstrate that morbid changes in the visual membrane of the eye may give rise to phenomena of blindness for some or all colours. These phenomena are so frequent, according to Galezowski, as to serve as characteristic symptoms for the diagnosis of certain forms of amblyopia.

In order to render an exact account of the impairment of the

chromatic faculty of the eye, it is necessary to have a fixed scale of colours; such an one has not existed up to the present time. But M. Galezowski has arranged a table which contains the principal colours of the solar spectrum, disposed in the order adopted by M. Chevreul. The disposition of this chromatic table is very favourable for examining the eyes with regard to the perceptivity of colours; it enables one also to judge of the phenomena of the simultaneous or successive contrast of colours. Before passing to the study of the alterations of the retina and optic nerve, Dr. Galezowski gives a short analysis of the optical and physical law of colours, and attempts to explain the physiology of coloured sensations by the law of dispersion of light in the cones of the retina. Up to the present time the theory of Dr. Thomas Young has been accepted. Helmholtz has developed and commented on this theory, and admits with Dr. Young that the eye possesses three kinds of proper nerve fibres for the perception and transmission to the brain of three different colour sensations—red, green, and violet.

Durand accepts with Young and Helmholtz the theory of three principal nerve fibres, but thinks that these correspond to other colours than those admitted by Young. Thus, according to this author, there are red or erythric fibres, yellow or xanthic fibres, and blue or cyanic fibres.

According to Dr. Galezowski, neither of these hypotheses can be admitted, since they are not confirmed either by microscopical anatomy or by pathological facts. He endeavours to explain the faculty of perceiving colours by the decomposition of light in the cones. The cones, he believes, are the chromatic organs of the eye, and play the part of small prisms, which decompose the light, so that at the base of each cone concentric circles are formed of colours corresponding to the colours of the solar spectrum. White light plays upon the whole base of the cone, and gives the impression of mixed white. Each separate colour, however, is not deviated by the surface of the cone except at a certain angle, and consequently is directed to, and proceeds to act upon the circle at the base proper to each colour.

Dr. Galezowski has found a confirmation of his theory in the experimental fact demonstrated by Aubert and Foerster, that sensibility for colours is greatest at the macula lutea, and diminishes towards the periphery of the retina. We know that at the macula there exist only cones, whilst at the peripheral parts of the retina these bodies diminish in numbers more and more. At the periphery they are replaced by the rods, which are organs for the perception of light, but can give no idea of colours.

The following results have been obtained by Dr. Galezowski in his pathological researches upon retinal chromatopscopy:—

1. In retinal apoplexy the chromatic faculty of the eye is not altered except when the effusions of blood are very large, or when they occupy central regions of the retina.

2. In albuminuric retinitis, partial blindness of colour exists when the affection arrives at an advanced stage, and when the local changes involve the external membranes of the retina and the macula.

3. Disturbance of the chromatic faculty is observed in glycosuric retinitis.

4. In syphilitic retinitis and neuritis, whether accompanied or not by choroiditis, disturbance of vision is associated with blindness as to green colour, and sometimes red.

5. Atrophy of the choroid does not give rise to this phenomenon unless the contiguous layer of the retina, particularly in the region of the macula, be disorganized.

6. In atrophy of the papilla perversion of the chromatic sense of the eye exists from the commencement, particularly for *red* and *green*.

7. The same thing occurs in alcoholic amblyopia, but with this difference, that in atrophy of the papilla the defect remains permanent, whilst in the latter form of amblyopia the chromatic disturbances vary daily and hourly, and are often characterized by phenomena of strange successive and simultaneous contrasts of colour.

Art. 153.—*Treatment of Myopia.*

By Charles Bader, Ophthalmic Assistant-Surgeon to Guy's Hospital.

(*Natural and Morbid Changes of the Human Eye.*)

In speaking of the treatment of myopia, Mr. Bader says, in his valuable work on "The Natural and Morbid Changes of the Human Eye," that the functions of the myopic eye, as regards acuteness of sight, are most frequently impaired by undue distension of its tunics. Our advice must tend as much as possible to diminish the progress of the distension—*i.e.*, the increase of the myopia. We therefore recommend the patient—*not to stoop when reading, &c.* Especially strongly myopic persons, as a rule, stoop when reading, &c., and hold objects nearer than is necessary for distinct vision. They must, to do this, converge the eyes strongly if both are used.

Stooping gives rise to congestion of the eyes, to increase of tension, and, through too great convergence, to pressure upon the already too thin coats of the eyeball. Patients should hold the head upright when reading, and place the book or paper, when writing, on a sloping desk. Particular attention should be paid to this in children. Objects must be held as far from the eyes as is compatible with distinct vision; and if that distance is less than ten inches, spectacles may be recommended in young myopics.

Art. 154.—*The Treatment of Glaucoma.*

By Charles Bader, Ophthalmic Assistant-Surgeon to Guy's Hospital.

(*The Natural and Morbid Changes of the Human Eye, and their Treatment.* London, 1868. Royal 8vo, pp. 505.)

Mr. Bader writes:—

"It has been found that if glaucoma be left to itself, or be treated

medically only, or by inefficient surgical means, or at too late a perio that vision sooner or later is destroyed.

"Most oculists have adopted the operation of iridectomy as a remedy which, in numerous cases, has the effect of diminishing the abnormal tension of the eyeball. Every medical man should learn to perform this operation. In cases of acute glaucoma, where it is of the greatest service, and where immediate surgical aid is required, the difficulties of its performance are but few, for the textures of the eyeball are little altered, provided vision has been useful before the attack.

"The operation is more difficult if the textures are rotten, as in simple and chronic glaucoma with much impairment of vision. The removal of a portion of iris is in itself a most harmless step, and never followed by serious consequences. No excuse exists for not performing the operation in acute glaucoma, especially if vision has been good before the attack.

"Persons who suffer from glaucoma, and whose sight is but little impaired, must be [made] acquainted with the usual course of 'the disease,' and with its more serious symptoms. Patients should avoid those things which cause irritation of the eyes, such as much reading, 'near-work,' mental excitement, sleepless nights, &c. We should urge the operation of iridectomy if we find the peripheral parts of the retina already impaired, or if attacks of dimness, with increased tension, appear at short intervals.

"Patients who have lost one eye by glaucoma are more readily induced to have the operation performed.

"The longer the operation is postponed the less favourable is the result.

"Secondary changes (mostly of an atrophic character) in the structures of the eye, brought on by long-continued pressure, are not remedied by iridectomy.

"Accidents which may arise during the operation, such as hæmorrhage into the retina, wounding of the crystalline lens, loss of vitreous, &c., diminish much the chances of success.

"As the result of careful examination of the retina, before and fror six to eighteen months after iridectomy properly performed, the following conclusions have been arrived at:—

"(1.) That the operation may be recommended as long as there is perception of light; and, in acute glaucoma, even if perception of light has been lost for a week after the attack.

"(2.) That the usual causes of failure are—advanced structural changes of the optic nerve and of the retina; fresh increase of tension; hæmorrhage, especially in the region of the yellow spot, or into the optic disc; and accidents during or immediately after the operation, as intraocular hæmorrhage, &c.

"(3.) That in the majority of cases the amount of vision is preserved which the patient had before the operation, and that for months vision continues to improve.

"(4.) That the result is the less favourable the more the paralysis of the retina has approached the yellow spot, especially if it has done so more from above and below; or if the sensibility of the region of the yellow spot is so much diminished that the patient

when looking at an object, turns the eye to one side ('eccentric fixation').

"(5.) That if we find the aqueous humour turbid, the transparency of the vitreous substance impaired, and the entire retina sensitive, a better result is obtained by iridectomy than if these are clear with a similar amount of impairment of vision.

"(6.) That in acute glaucoma the pain ceases almost immediately. (From four to six leeches should be applied at bed-time to the corresponding temple, if the pain returns soon after the operation.) The external 'inflammation' and the turbid state of the media, as a rule, disappear after from ten to fifteen days.

"(7.) That the less the eyes are used for near-work, the more satisfactory and lasting is the result of iridectomy."

Art. 155.—*Hypodermic Injection of Atropia in Threatening Glaucoma.*

By Francis E. Anstie, M.D., F.R.C.P.

(*The Practitioner*, July.)

A special hypodermic application of atropia which appears to promise the most valuable result, is its use in painful iritis, and especially in threatening glaucoma. Dr. Anstie firmly believes that in two cases he has succeeded in preventing the latter affection from developing itself; at least the most threatening symptoms were present, and rapidly subsided under the use of $\frac{1}{60}$th grain injections of atropia.

Art. 156.—*On Lachrymal Conjunctivitis.*

By Dr. X. Galezowski.

(*Gazette des Hôpitaux*, No. 108, 1868.)

Lachrymal conjunctivitis may be chronic or acute; the former is more frequent, and is characterized by excessive chronicity and persistence of the same symptoms for months and years. The following are the signs of this affection:—

a. Every morning the eyes water; the alæ nasi and angles of the eye are covered by crusts or mucosities.

b. When the patient awakes, the eyes are so sensitive to daylight, that there is much trouble in opening them. There is true photophobia, which lasts for five, ten, or fifteen minutes. As soon as the eyes have been washed with fresh water, the sensibility disappears.

c. The palpebral and ocular conjunctivæ are injected, particularly at the two angles, a vascular train often extends to the margin of the cornea, and leads to the supposition that phlyctenulæ are present.

d. The eyelids on the outside are generally healthy; sometimes the skin is reddened at the external angle.

e. In the morning the sensibility to light gradually diminishes, so that the patient is then enabled to follow his occupation. In the course of the day, immediately when the patient is exposed to broad daylight, it becomes impossible for him to bear the light of the sun; the photophobia is so great that dark glasses have to be worn.

f. At the same time there is lachrymation; but this often lasts only in broad daylight or on exposure to wind; in the shade or in a half-lighted room the lachrymation disappears. Patients when questioned on this point often give negative answers, thus rendering the diagnosis very difficult.

g. Towards the evening and with a bright lamplight, the same symptoms return: photophobia, sensibility of the eyes, a feeling as of gravel between the lids, and very marked conjunctival redness simulating catarrhal conjunctivitis.

h. All work in the evening becomes impossible. The patient feels as if he could fix nothing with the eyes; letters are doubled, and a mist appears over everything that he wishes to see.

i. The phenomenon of coloured and variegated circles similar to "rainbow" circles about a flame, may appear, but it is not constant. It is due to an accumulation of the tears at the margins of the eyelids, which play the part of a prism decomposing the light.

k. Lachrymal conjunctivitis is a chronic affection; it lasts for years; the patients become gradually habituated to the inconveniences with which they are affected, and it is only at times that they are prevented from working by more serious attacks.

l. When the conjunctivitis is developed in aged subjects, or when it has lasted for many years, it may occasion an outward turning of the lids, and give rise to that form of ectropion which has been styled senile, but which is for us but a simple lachrymal ectropion.

m. Chronic lachrymal conjunctivitis may be suddenly transformed into a subacute conjunctivitis, and give rise to all the symptoms which characterize catarrhal conjunctivitis. The lids become swollen, there is abundant suppuration, pains in the eye, a sensation as if gravel were present, and all the remaining symptoms of this latter affection. It is perhaps on account of this resemblance that modern authors describe catarrhal conjunctivitis and simple conjunctivitis as one and the same affection. But as the cause of the affection which we are considering is mechanical, that is to say, as it is produced by tears remaining between the lids and setting up irritation, the treatment ought to be different.

The cause of lachrymal conjunctivitis exists in some part of the passages for the excretion of tears; sometimes it is a deviation, at others a contraction or obstruction of the lachrymal points or canals, or of the nasal duct. One may readily make sure of this by injecting lukewarm water by the puncta lachrymalia. Whenever contraction or obstruction has been made out, the surgeon should at once resort to an operation for the purpose of restoring a free passage for the tears.

Treatment.—In this affection, as in many others of the eyes, the conduct of the surgeon should vary according to the symptoms presented

by the patient. When contraction of the lachrymal passages has been once established, it is necessary to remedy this state of things without delay, by injecting warm water with a small Anel's syringe into the lachrymal passages, and by immediately, if circumstances permit, resorting to dilatation of the puncta lachrymalia by means of Galezowski's instruments, or rather by incising the lachrymal canal, and introducing graduated sounds into the nasal canal. By this radical treatment one succeeds in removing the lachrymation as well as the lachrymal catarrh. But apart from the surgical treatment, which is not always accepted by the patient, it is necessary that we should find some means which may alleviate the principal symptoms by which the subjects of lachrymal conjunctivitis are tormented. The use of cold compresses applied over the eyes, may afford considerable relief; whilst cataplasms and compresses of warm water which act so well in cases of catarrhal conjunctivitis, generally aggravate the former affection.

A pomade of fresh cucumber is a soothing application for the irritated lids, and prevents their agglutination during the night.

Of the collyria which may be advantageously employed against this simple or lachrymal phlegmasia, M. Galezowski prefers that of sulphate of zinc. He employs it generally in the following proportion :—

Distilled water, 100 grammes, sulphate of zinc, 0·25 centigrammes, to be applied to the eyes night and morning.

In subacute lachrymal conjunctivitis, some cauterizations of the lower lid with a crystal of sulphate of zinc, and dilatation of the contracted lachrymal passages, will suffice for arresting this phlegmasia.

Art. 157.—*Carbolic Acid in the Treatment of Conjunctivitis.*

By E. L. Holmes, M.D.

(*American Journal of the Medical Sciences,* October.)

Dr. E. L. Holmes states *(Chicago Medical Examiner)* that he has been induced to try the carbolic acid in diseases of the conjunctiva, and he says that he has "found in about a dozen cases, at the infirmary, both of acute, and especially of chronic inflammation, that the patients made a good recovery under its use.

"It is doubtful whether it possesses any advantage over the ordinary astringents, and yet it may be a desirable agent in cases where the usual applications fail. In two cases of purulent conjunctivitis, its use between the applications of nitrate of silver, after the latter had been tried two days, seemed to rapidly overcome the excessive discharge of pus. Possibly, its antiseptic properties may aid in destroying any specific poison that may exist.

"When applied, in a saturated solution, to the conjunctiva, as also to the mucous membrane of the mouth, it produces an intense burning pain, which almost invariably subsides in a few moments. It produces a thin, white pellicle on the surface where it is applied, which is soon cast off, leaving scarcely any irritation."

Art. 158.—*Sulphate of Soda as a Means of Removing Opacities of the Cornea.*

By Henry Power, M.B., F.R.C.S.

(*The Practitioner*, September.)

Mr. Henry Power reports favourably the efficacy of the sulphate of soda for removing the curable forms of opacity of the cornea. It is well known that while superficial opacities, the result of recent inflammation, especially in children, will often disappear through the influence of the natural powers; while those opacities produced by burns or caustics, or which are the result of perforating ulcers with adhesion of the iris, are permanent. In those forms of diffused haziness resulting from hypertrophy of the corneal epithelium, or where the spaces between the lamellæ are enlarged and filled with nuclei and imperfectly formed cells, proceeding from the proliferation of the ordinary corpuscles, after the inflammation has subsided, local stimulants may be useful.

Mr. Power says that not more than one or two grains of the sulphate of soda should be applied to the eye at any one time, and that the most convenient mode of application is to invert the upper lid and brush the powders lightly over the surface with a camel's-hair brush. This may be repeated daily, or on every second or third day, according to the degree of reaction which follows. The immediate effect is, he says, to produce a considerable degree of redness and sharp smarting pain, with lachrymation, lasting half an hour or more. In some cases the reaction is too violent, in which case the salt may be mixed with a little starch, or it may be applied in solution, five grains to four ounces of water.

Art. 159.—*On the Examination of Patients suffering from Deafness.*

By Thomas Smith, F.R.C.S.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

In this paper Mr. Thomas Smith, who disclaims the character of a specialist in diseases of the ear, describes generally the affections to which that organ is liable, and the methods by which they are most readily investigated. He draws a comparison between the eye and the ear to prove the essential difficulty attendant upon the investigation of diseases of the latter as compared with the former, the one organ presenting a number of transparent structures which are easily seen, and the other having nearly all its structures concealed in bony cavities. Mr. Smith describes the instruments necessary for investigating diseases of the ear, and shows that they need be only few in number and simple

in construction, and he gives directions as to the inquiries which should be made of the patient when examining into the history of the disease. The use of an ordinary watch is available for ascertaining generally the existence and the degree of deafness; but in exploring the condition of the external meatus, a small concave mirror may be used, together with the simple tubular speculum of Sir W. Wilde. To ascertain the patency of the Eustachian tube, the patient should blow air into the tympanum while the surgeon listens, by means of the otoscope, to the effect produced. The Eustachian catheter is also described by Mr. Smith, and also the mode of introducing it, which is a matter of some difficulty, to be overcome only by practice upon the dead subject, or on an anatomical preparation.

Art. 160.—*On Two Methods of Removing Foreign Bodies from the External Auditory Meatus.*

By A. Gardiner Brown, M.R.C.S.

(*Medical Times and Gazette*, August 8.)

Where the substance to be removed is not too tightly impacted in the meatus, atmospheric pressure (suction) may often advantageously be had recourse to in the following way:—A few inches of French vulcanised rubber tubing, of a size to fit the meatus easily, but not loosely, is cut at one end with a pair of sharp scissors in such a manner as to make it fit the visible surface of the foreign body somewhat neatly when pushed gently against it in the meatus. The end of the tube, before introduction, is moistened, and the direction of any inclination of the seen surface of the foreign body accurately determined, so that the cut end shall be properly applied to it. Suction, for the purpose of extraction, is now to be made use of in one of the following ways:—An assistant is to attach an ordinary ear syringe (the piston being home) to the other or free end of the tube, and make gentle suction by drawing out the piston-rod. Or the mouth may be applied to the tube: suction thus produced is extremely convenient, but not advisable if the presence of the foreign substance have set up any suppurative action or other discharge. Or let the left hand of the operator rest comfortably on the side affected of the patient's head, which must be well supported; gently, but firmly grasp the rubber tube (nicely applied as before) with the thumb and forefinger of the same hand close up to the meatus; starting from this point, run the corresponding digits of the right hand somewhat rapidly along the tube to near its end, pinching it firmly at the same time to exclude all air. The vacuum just made will act on the substance to be removed immediately the pressure of the left fingers is discontinued.

The above method requires some practice and nice manipulation in order to insure success. If thought desirable, the vacuum may be produced by connecting a piece of the rubber tubing to a phial by means of a cork pierced with a short glass tube, then removing the air by spirit lamp, as in cupping, or by boiling water. To obviate the ten-

dency which rubber tubing has to collapse under atmospheric pressure, the greater part of the length employed may be substituted by quilled-glass tubing, this latter being only tipped with the former.

Where the foreign body is spherical, it may often be successfully removed by a rolling-out plan being attempted in the following way:—Select a curved suture needle with a broad but thin point, and rub this extremity on a steel surface (as the blade of a knife), so as to allow the finger, when passed along its concave surface, to feel a slight "burr" or turning-over of the point. The operator is now armed with a microscopic hook of great relative power, and one which will hardly ever refuse to pass between the wall of the meatus and the obstructing body. This instrument should always be passed at that point of the circumference of the foreign body which presses least on the meatus, this being generally, Mr. Brown believes, either above or below when the form is spherical. The rolling-out process requires the needle to be inserted some five or six times over the object, especially when deeply seated. Care must be taken that the "burr" is well brought over the point of the needle in preparing it, or the repeated introduction will push the substance in further or as far as the traction brings it out.

Art. 161.—*On the Application of the Galvano-caustic in Affections of the External Ear.*

By Dr. Schwartze.

(*Archiv für Ohrenheilkunde*, 1868, Bd. 4, Hft. i.; and *Gazette Hebdomadaire*, No. 35, 1868.)

Among the chronic affections of the external ear, granular growths of the auditory canal or tympanum necessitate surgical interference. For a long time practitioners have performed cauterization with nitrate of silver, caustic potash, and even chromic acid; but it has been observed that these different plans of treatment present serious difficulties, due either to the necessity for repeated applications of the caustic agent, or to the severe and persistent pain which is commonly the consequence of such proceedings.

Dr. Schwartze finds in galvano-caustic a method for the treatment of granulations which is at once very rapid and very sure. The principal advantages of this proceeding are the following: in the first place the short duration of the treatment; whilst it requires several months for the complete destruction of granulations with ordinary caustics, one month may, in cases of granulations of the canal at least, destroy the morbid growth by a single application of the galvano-caustic. In the second place the duration of the pain is diminished. Although at first the pain of the cauterization is more severe than that caused by the employment of nitrate of silver, the inflammatory reaction is never comparable to that set up by the latter caustic. Finally, no relapse is to be feared, if a single application of the galvano-caustic has been sufficient. Dr. Schwartze has never observed any cerebral complications after the employment of the galvano-caustic.

Art. 162.—*On Removal of the Entire Tongue.*

By Sampson Gamgee, F.R.S. (Edin.), Surgeon to the Queen's Hospital, Birmingham.

(*The Lancet,* November 14.)

Subjoined is the history of a case in which Mr. Gamgee removed the entire tongue, with no better result, he states, than most of his predecessors :—

Henry S——, aged fifty-two, a labourer, was admitted into the Queen's Hospital, from Stratford-on-Avon, on the 25th of August last. The patient, a spare-built but florid-looking man, was married, and the father of seven living children. He had always enjoyed excellent health up to twelve months last past, when he began to experience shooting pains in the ear and down the neck. Shortly afterwards his tongue became sore, and on examining it he found a small, well-defined, roundish lump, with ulcerated surface, on the left side of the tongue. It has continued to extend ever since, and has occasioned great pain and difficulty in swallowing. About three months after its first appearance he applied to a medical man, who extracted two sound teeth in the lower jaw because they hurt the tongue. Five months later (four months before admission) the disease began to spread with considerable rapidity, and bled very much. When first seen by me, the patient had a deep excavated ulcer, of oval shape, involving the anterior two-thirds of the left side of the tongue. The edges of the ulcer were thick, raised, everted, and irregularly notched ; its floor was foul, and studded with pea-shaped, tuberous granulations, discharging a thin, ichorous fluid. There was great fetor of breath, and profuse salivation. No implication of structures at the floor of the mouth, or apparently of neighbouring glands. General health much impaired in consequence of inability to take solid food.

A great variety of means were employed with a view to improve the general health and the character of the ulcer, but as they all failed, I operated on the 3rd of October. The patient, having been previously shaved, was placed upon a table, and rendered completely insensible with chloroform administered by Mr. Snow and Dr. James Hinds. The shoulders being raised and the head thrown well back, standing on the right side of the patient, I made a semilunar incision along the base of the lower jaw, commencing at the symphysis, and extending it outwards on either side to a point just anterior to the facial artery. A second incision was carried vertically downwards from the centre of the jaw to the hyoid bone, at right angles to the first. The triangular flaps thus marked out (consisting of skin, areolar tissue, and the anterior fibres of the platysma myoides) were dissected down. A narrow-bladed knife was then thrust in the mesian line close behind the bone, from below into the mouth, and swept along the inner surface of the lower jaw, as far as the posterior limits of the first incision, to divide the attachments of the muscle and the buccal membrane. An opening of sufficient extent being thus effected into the floor of the mouth, the tongue was drawn down upon the anterior part of the neck, and secured by my friend and colleague, Mr. J. E. West. The tongue being raised, I thrust a narrow-bladed knife through the raphé from below, just in front of the hyoid bone, into the mouth. Withdrawing the blade, I passed one by one two écraseurs through the wound, fixing one on the right half of the tongue, the other on the left, just in front of the

anterior pillars of the fauces; the left one was tightened clearly, though only a couple of lines, behind the posterior limits of the disease. My colleagues, Mr. Furneaux Jordan and Mr. J. St. S. Wilders, took respective charge of the left and right écraseurs, tightening each alternately, at intervals varying from half a minute to a minute. Though the process of division was slow, no sooner did the écraseurs become detached than a large quantity of blood welled out of the wound, and the patient became very pale. I introduced my thumbs into the fauces, bringing forward the mucous membrane and grasping it together with the flaps which had been dissected down from the submental region. I thus attained two objects: compressing the bleeding surfaces and bringing the tongue well forward; the flapping epiglottis was in full view, and the risk of blood entering the trachea was averted. The surface of the wound and the stump of the tongue were immediately mopped with styptic colloid, a triangular lump of ice held in the mouth with a pair of forceps, long hot flannel stockings slipped on the arms, a hot blanket wrapped round the legs, and a brandy injection at once administered per rectum. After all oozing had ceased, the patient was carried from the theatre to the ward, where another brandy and beef-tea injection was given at once.—3 P.M. (three hours after operation): Reaction fully established; skin hot and moist; pulse 120, full; temperature $102\frac{1}{5}°$; respiration 36. Injection of beef-tea and brandy to be continued every two hours.—7 P.M.: Pulse 134; temperature 104°; respiration 28. The glazed flaps were gently brought together and made to meet by silver sutures in the transverse line; the vertical incision was likewise approximated above, the lower angle being left open for free escape of secretions.

Oct. 4th.—9 A.M.: Passed a comfortable night; slept at intervals; no bleeding. Pulse 104; temperature $100\frac{3}{5}°$; respiration 32. Injections to be continued every fourth hour.—10 P.M.: Hæmorrhage rapid and profuse from the mouth. The quantity lost must have been considerable, for not only was the pillow saturated with blood, but a good deal was spilt on the floor. Dr. Jolly staunched the flow by steady pressure on both carotids for about two minutes, which produced instant syncope. A short time after a warm water and brandy injection the circulation became more developed, and there was no recurrence of the bleeding.

5th.—Free from pain; wound looks well, and is for the most part healed. Thirst relieved by moistening his lips with ice; drank a cup of milk this morning. Pulse 110; temperature $101\frac{2}{5}°$; respiration 28.

6th.—Had an opiate last evening; nevertheless the night has been somewhat restless. Pulse 124; temperature $102\frac{2}{5}°$; respiration 24. Injections discontinued. The patient takes a cupful and a half of milk every four hours.

8th.—At times the man wanders, but speaks collectedly when aroused. Pulse 116; temperature $100\frac{4}{5}°$; respiration 28. Takes milk, arrowroot, and calf's-foot jelly freely.

9th.—Passed a restless night. Face flushed; expression of countenance anxious. Wound has opened up again along the base of the jaw; stitches removed, and strapping applied. There is a considerable swelling below and behind the angle of the jaw of the left side. Pulse 128; temperature $101\frac{4}{5}°$; respiration 24.

10th.—Was restless during the night, and the stomach became exceedingly irritable, even to frequent vomiting. Ordered a draught, containing two drops of hydrocyanic acid, in a little mint water, which remained on the stomach; in an hour afterwards also to take some warm brandy-and-water. Feels very low. Pulse 128, soft and feeble; temperature 101°; respiration 30.

11th.—Worse: debility increasing; features sunken; pulse 138, scarcely perceptible. Temperature 100$\frac{3}{5}$°; respiration 38.

12th.—The patient gradually sank, and died at 2 A.M. this morning.

Examination of the tongue.—On looking down on to the dorsum of the tongue, Mr. Gamgee writes, the right side appeared perfectly healthy; while the left side presented a foul excavated sore, reaching posteriorly to within one-eighth of an inch of the line of incision, on the under surface to within two lines of the raphé, on the upper surface to within three lines of the middle line. The disease extended nearly to the tip. The left side of the tongue was greatly thickened, being an inch and a half in depth, while the healthy side was barely three quarters of an inch. Nearly the whole surface of the left half of the tongue consisted of an ulcer, with the edges sinuous and undermined, foul, and sloughy. The diseased part was horny on section. On cutting horizontally through the tongue, tubercular nodules were seen extending from the deeper parts of the ulcer towards the median line, and apparently resting in healthy tissue. These nodules were firm, and of a yellowish grey colour. On microscopic examination of the juice obtained from a surface of the section, it was found to contain nucleated cells of the size of blood-cells, and free nuclei; also large epithelial cells of various shapes, with two or three nuclei each, some of the cells being spherical, others ovoid, fusiform, or polygonal. A thin section showed irregular nucleated cells, lying side by side, and held together by fine fibres. Some of the cells contained oil-globules, and appeared shrunken. There were no distinct broad cells filled with large nuclei, and no laminated corpuscles.

Autopsy, Oct. 15th.—Stump of tongue in a healthy state; but the soft parts forming the floor of the mouth were in a very sloughy and unhealthy condition. Corresponding to the swelling behind and under left angle of jaw was an indurated lymphatic gland, a section of which presented characteristic cancer cells. Thoracic and abdominal organs perfectly healthy. Lungs crepitant throughout, sections from both bases floating well on water.

The rapid enlargement of the gland beneath the jaw after the removal of the tongue was, Mr. Gamgee says, a striking fact. Though not noticed during life, the gland must have been slowly on the increase some time; and the malignant deposit with which it was infiltered somewhat lessens regret at the poor man's speedy death, for he could not have survived the glandular disease many months. Such a complication militates against the operation, but, even if suspected, would not in Mr. Gamgee's opinion necessarily be a bar to it.

With the incisions for the submental aperture according to Regnoli's directions Mr. Gamgee is quite satisfied, for they fulfil the great indication of giving plenty of room without involving considerable vessels or important structures; they permit of the safe administration of chloroform throughout the operation, bring into view the whole extent of disease, and place under command the possible sources of hæmorrhage. Professor Regnoli ligatured the stump of the tongue in several portions before he excised, and his case made an excellent recovery; it was not until four years later that cancer returned in the tonsils and proved fatal.

With the écraseur Mr. Gamgee was not satisfied, and should not

employ it again in a similar case. The bruising it inflicts is an evil only tolerable if the use of the instrument guarantees safety from hæmorrhage. The patient lost a good deal of blood during the operation, and would have died from secondary hæmorrhage the next day but for Dr. Jolly's prompt compression of the carotids. The écraseurs were certainly not tightened quite so slowly as M. Chassaignac directs; but Foucher has recorded a case of partial removal of the tongue by two écraseurs worked at intervals of one minute, so that fifty minutes were required to effect the section; nevertheless, hæmorrhage was so profuse as to necessitate ligature of the external carotid.

Art. 163.—*Treatment of Common Alveolar Abscess.*

By Christopher Heath, F.R.C.S., Assistant-Surgeon to University College Hospital, and Teacher of Operative Surgery in University College, London.

(*Injuries and Diseases of the Jaws: the Jacksonian Prize Essay of the Royal College of Surgeons of England*, 1867.)

In speaking of this troublesome affection, Mr. Heath says: "When the inflammation is due to a diseased tooth, extraction of the tooth, or stump of a tooth, should be immediately performed. There is a popular notion, which has received some support at the hands of some members of the profession, that extraction of a tooth must not be performed during the stage of active inflammation of the alveolus. I know of no ground for this statement, which is entirely devoid of truth. . . . No greater mistake can be made than to encourage the pointing of an alveolar abscess on the surface of the skin by poulticing. During the early and acute stage of the inflammation, the warmth of a poultice may be grateful to the patient, and if applied for a few hours will do no harm, though I should myself greatly prefer the application of extract of belladonna and glycerine (two drachms to half a drachm); but continued poulticing will merely lower the vitality of the part, and tend to the very result which is to be avoided if possible. Even when the skin is already reddened and adherent to the bone, its breaking may be avoided (provided a free exit for the discharge of matter into the mouth has been secured) by painting the surface with iodine and avoiding all warm applications."

Art. 164.—*Abscess in the Cheek extending into the Skull.*

Under the care of Dr. Mackenzie Bacon, of the Cambridge County Asylum.

(*Medical Times and Gazette*, November 21.)

In this case, Dr. Bacon remarks, a very ordinary ailment took an unusual course, and proved rapidly fatal. It could hardly, perhaps, be

predicted that an abscess around a carious tooth should extend into the skull, traverse the base, and terminate in the orbit of the opposite side; yet this is what happened, and the post-mortem left no doubt as to the actual course of events. The outline of the case is as follows:—

A man aged 45, a patient in the Cambridgeshire Asylum, had in June, 1868, the left side of his face swollen in consequence of an abscess around the last tooth in the lower jaw on that side. The patient was a general paralytic, in feeble health, and in an advanced stage of dementia. He said very little, and was very dull and apathetic. After a few days the abscess burst inside the cheek, and the swelling subsided; but a few days later, on looking at the man one morning, it was noticed that his right eye was prominent, the whole orbit being distended, and the globe bulging out. This increased the next day; the conjunctiva projected above the level of the cornea, and was congested, and the skin around became livid. The patient got gradually comatose, and died in two days.

Post-mortem Examination.—On opening the skull, which was very dense, the brain seemed tolerably healthy to the naked eye, but on removing it a broad patch of discoloration was seen at the base where it rested in the middle fossa of the skull, more extensive on the right lobe than the left. The damaged part was dark from decomposition, and covered with fœtid pus. A broad line of dark, fœtid, decomposing tissue, with pus, could be traced from the left ala of the sphenoid across the sella turcica into the right orbit, which was distended with pus and fluid. The line of inflammation was afterwards traced downwards through the superior maxilla and muscles of the cheek to the last alveolus of the lower jaw, where was a loose carious tooth surrounded by pus. Around this tooth was a mass of fœtid tissue, to which the mischief had been at first limited.

Art. 165.—*On Luxation of the Inferior Maxilla.*

By Dr. Mathieu.

(*Archives Générales de Médecine*, August, 1868.)

1. All the elevator muscles of the lower jaw act either as direct or indirect retractors of the condyles, when these have been carried forwards.

2. These retro-elevator muscles oppose luxation, which might be caused by depression of the jaw, and facilitated by apposition of the angles of the lower maxilla to the mastoid processes.

3. The amount of inclination in the anterior part of the transverse root of the zygomatic process never suffices for the prevention of spontaneous reduction of a luxation.

4. It is scarcely probable that the contact of the coronoid processes with the malar bones forms the only cause of permanence in the luxation.

5. Division of the posterior fibro-glenoid ligament produces an exceptional and moveable luxation of the condyle and meniscus.

6. Forced depression practised upon a joint deprived of its elevator muscles always causes the condyle to pass in front of the meniscus.

7. This sub-meniscoid luxation may result from detachment of the internal tubercle of the condyle, without rupture of a single ligament.

8. The meniscus fixed upon the transverse apophyses of the zygomatic process after displacement of the condyle, forms the real impediment to reduction.

9. The contact of the molar and coronoid projections is a frequent consecutive result, but is not an indispensable occurrence with luxation of the condyles without the menisci.

Art. 166.—*The Treatment of Tongue-tie.*

By C. F. Maunder, F.R.C.S., Assistant-Surgeon to the London Hospital.

(*The Lancet*, August 8.)

The method which Mr. Maunder has been in the habit of employing to remedy this malformation is to tear or lacerate the membrane with the forefinger. The finger is, of course, introduced into the mouth to ascertain the existence of the deformity, and this is no sooner recognised than pressure directed downwards and backwards towards the floor of the mouth (the finger-nail resting on the frænum), tears the latter, and the object is effected. This means, Mr. Maunder remarks, is very simple, can be carried out under the veil of making a digital examination, and as no surgical instrument is employed, is highly acceptable to mothers.

Art. 167.—*Treatment of Enlarged Tonsils.*

By J. Mason Warren, M.D., Surgeon to the Massachusetts Hospital.

(*Surgical Observations, with Cases and Observations;* and *Medical Times and Gazette*, October 3.)

Dr. Warren is an advocate for excision of tonsils, and states that he has performed this minor operation more than five hundred times with satisfactory results. In cases of enlarged tonsils with otorrhœa, deafness, difficulty of respiration, and other disturbances caused by obstruction to the free ingress of air, partial removal of the affected glands has given great relief. The following are his conclusions on the results of such treatment :—

"From a review of a large number of cases, I find that many of the children were of a scrofulous constitution; that the enlargement of the tonsils caused great local trouble, attended with considerable constitutional disturbance; that the patient was much more liable to inflammatory attacks of the throat than in cases where this condition does not

exist; and that they were less liable, after the operation, to these attacks.

"In about half of all the cases, and in about two-thirds of those of children, deformity of the chest existed. Whether this depended on the general constitutional habit of the patient, or was induced by the obstruction in the throat to the free passage of air, the accounts received as to the exact time when either affection was first observed were not sufficiently accurate to justify a decision. It is certain, however, that this deformity does not increase, but rather diminishes, after the removal of the obstruction in the throat. The operation is a simple one, attended with no danger, and almost always affords immediate relief to the symptoms."

The instrument generally used by Dr. Warren is a guillotine without any steel movable needle for piercing the tonsil, as this is thought to be a useless addition.

Art. 168.—*Treatment of Hare-Lip.*

By Maurice H. Collis, M.D., F.R.C.S.I., Surgeon to the Meath Hospital and Co. Dublin Infirmary, &c.

(*Dublin Quarterly Journal of Medical Sciences*, May.)

Dr. Collis writes :—

The rules for my operation are—

1st. Never to interfere with the true frenum. It is not only unnecessary to divide it, but most pernicious.

2nd. Freely to divide all false frena, and if the alar cartilage is misplaced, let the incisions separate it freely, so that it may be fairly drawn into its proper place.

3rd. Never to attempt to close the lip so long as the inter-maxillary bone is misplaced to any extent.

4th. To preserve and utilize all the parings. They are all wanted, as they all have their proper place; to this point I will revert at length.

5th. To use interrupted sutures, and discard all pins or needles as far as possible.

6th. To leave the line of union exposed, using no dressings or plasters for some days.

"And now to justify these rules :—

"1. I never divide the true frenum. Its obvious use is to steady the lip, to prevent muscular action from drawing the centre of the lip away from its proper place. Let any one with his finger or tongue try on his own lip what the uses of the frenum are. The division of the frenum unsteadies the lip, makes it tend to run into a string, and, in many cases, leaves a permanent fistula into the nostril. It is, moreover, quite unnecessary, as the parts can be brought into perfect apposition without meddling with it.

2. I freely divide all adhesions or false frena, and I subcutaneously separate all attachments of the ala nasi to the bone which interfere with the proper formation of the nostril. The advantages of this are so obvious that I need not dilate upon them.

"3. Before paring the margins, the intermaxillary bone should be placed exactly in the centre, if not so already. Where there is fissure of the hard palate there is always this displacement. I generally manage this part of the operation by detaching the bone on the sound side by means of a narrow gouge. A strong forceps, with the blades protected with chamois leather, will then force the bone into position. As the nutrient vessels run along the mucous membrane, and chiefly on the inner surface, the gouge is the best instrument for loosening the bone. It may be used freely in this subcutaneous or submucous fashion; in fact, the more freely the bone is loosened the more easy is it to get it into position. The instrument has the advantage of being efficient and simple—no small recommendations now-a-days.

"4. I never throw away a particle of the parings. My incisions are made so as to make every fragment of them useful. On one side they are preserved to make the lip thick, and on the other to increase its depth.

"5. I use, as a rule, sutures of horse-hair, as being less cutting than wire and less irritating than silk or thread. Pins, except very fine insect pins, I have discarded. Even these I use but rarely. A well-tied suture holds the parts together with sufficient firmness. It can be removed at any time, whereas the pin must remain until it becomes loosened in its bed by suppuration; hence the mark of a suture is trifling compared with that left by a needle or pin. The spot which requires a pin most frequently is the ala of the nostril. It tends to revert to its old position with more force than the lip, and it often needs the stronger pull of a pin.

"I generally insert the upper suture first, then the one close to the line of junction of the red and white, then the two intervening sutures, in the order that seems most suitable in each case. Sometimes I have inserted a suture on the inner or mucous surface of the lip. Sometimes this is not necessary. Generally I put a fine suture just along the free margin to keep the lower flap in its new bed until it contracts adhesion there.

"The sutures are removed one after another: those near the margin first, the upper two last. As to time of removal much will depend on the age of the child, and on the firmness of its flesh. Thus in a strong child a suture may be left three or four days, while in one more delicate it may have to be removed in forty-eight hours. Sutures should never be left long enough to ulcerate.

"6. By this treatment of the sutures, plasters and dressings are dispensed with until some days have elapsed. They are applied only when the sutures are removed, and with a view to prevent the lip from thinning. I generally find that all the wound heals by first intention, and the presence of plasters rather interferes with this process, at least so long as the sutures are left. When plasters are used they have to be removed when we wish to inspect the lip, and their removal disturbs the delicate process of union. By leaving the lip uncovered we can watch the progress of the cure, and it is easy to apply a strap at any moment if it be really needed. The use of Hainsby's truss will, in most cases, make it quite unnecessary to use plasters of any kind. Collodion is

sometimes useful, but it should be made very thick. The ether in thin collodion acts injuriously on the healing process.

"As to the age for operating, I have done so successfully in a child under three weeks, and I have seen others of twice as many months in whom I refused to operate. The question is entirely one of the strength of the child, and the firmness of its flesh.

"With regard to complicated double hare-lip, the first point to be attended to is, in like manner, the strength of the child, which, as a rule, is far below par. When, by careful feeding, this has been brought up to a proper state, the protruding intermaxillary bone has first to be replaced. It should never, under any circumstance, be removed. This is, in fact, so well established an axiom of surgery, that it need not be insisted on. It is not always easy to bring it into its proper site. There are three methods to choose from: one is to separate it completely from all bony attachments, and to leave it for a time pendulous, adherent only to the central portion of the lip. This is the best way when practicable. The second is to take a V-shaped piece out of the vomer. The third is a new method which I have tried, and which has the advantage of helping materially to lessen the gap in the palate. It consists in cutting off an oblique portion of the vomer along with the inter-maxillary bone. Whichever method is adopted, the bone is best left undisturbed for a few days after this stage of the operation. Nothing is more fatal to success in these cases than the effort to do too much at a time. A few drops of ether will sufficiently anesthetize the child to prevent its being frightened by repeated operations; success of the highest kind can only be obtained by doing the operation bit by bit. It is easy no doubt to conclude all at one sitting—but not to conclude all well. I therefore advise that, as a rule, the bone when detached in any of the above methods, should be left undisturbed for a few days before any attempt is made to push it back or retain it in its new position. Yet if it goes back easily, the remainder of the operation may be done at one sitting.

"I treat the middle bit of skin as in simple hare-lip, paring its margin in a curved manner, and leaving the parings attached by the mucous membrane; the outer portions are treated exactly as in single hare-lip, and the sutures are practically the same. In double hare-lip they are best inserted, and tied from below upwards. The amount of the central portion which can be made to contribute to the lip, is never very great, and the strain on the upper portion of lip is often very considerable. In these cases the use of Mr. Hainsby's truss is of the greatest service."

Art. 169.—*Case of Removal of Fibrous Polypus attached to Base of Skull.*

Under the care of Sir William Fergusson.

(*Medical Times and Gazette*, August 22.)

This case is worthy of notice, and not merely from a pathological point of view. Years since, when Liston first advocated the entire or

partial removal of the superior maxillary bone, the line of incision was made from the angle of the mouth on the affected side up to the zygoma. This wound, when healed, left an imperishable scar, and remained a great disfigurement during the patient's life. Sir William Fergusson was, we believe, the first who suggested that quite as much room might be obtained by carrying the knife up the mesial line of the upper lip, around the ala of the nose, and along the side of this organ towards the inner canthus of the eye, from which point the incision might be extended, if necessary, along the fold at the lower margin of the orbit. This mode of procedure obviated all disfigurement, as the incisions are made in the natural depressions of the skin.

James H——, aged nineteen, a sailor, was admitted into the Victoria Ward of King's College Hospital June 11, 1868, with a swelling in the upper jaw. The history was as follows :—Two years since he had some sharp, darting pain in his right cheek, and that side of the face began to swell. The pain left him in a short time, but the swelling gradually increased both in size and hardness. From its original situation, just above the angle of the lower jaw, the enlargement spread upwards and inwards rapidly, and lately he has been unable to blow through either nostril. On admission, the patient appeared a strong healthy young man. The tumour extends from the angle and lower border of the inferior maxillary bone up to and beneath the zygoma of the right side, and forwards to the nose, the chief prominence being over the malar bone. However, the antrum does not appear enlarged, the alveolus and teeth are quite firm, and the roof of the mouth seems in its normal state ; both nostrils are blocked, and the septum is pushed over to the left side. This case was watched with much interest for some time, and it was found that the growth increased rapidly, though the patient suffered but little pain. There was so much about the tumour that was doubtful about the seat and character, that it was not till a month after admission that Sir William Fergusson determined to operate upon it.

July 11.—Sir William slit the upper lip open exactly in the mesial line, in the hollow under the columna, and then carried the knife along the right side of the base of the columna ; then, turning the incision upwards, he took the knife along the right side of the nose to within half an inch of the inner canthus of the eye. The soft parts being dissected from the bone and turned outwards quickly—for there was a great deal of hæmorrhage—a square piece of bone was removed from the superior maxilla by means of the saw and cutting pliers, and the back of the nose opened. (There was still very much bleeding.) Through the opening thus made, a strong pair of polypus forceps, introduced backwards and downwards towards the base of the cranium, succeeded in extracting a small portion of a polypoid growth. Then, by the employment of a smaller pair of forceps, a huge polypoid mass was seized and extracted, and then it was found that the external bore no relation to the internal disease—in fact, that there were two separate diseases. The polypoid growth was irregular in shape, and connected with the base of the cranium by a thick pedicle : it was of the fibrous kind.

At this stage of the proceedings, the patient became so blanched from loss of blood that it was deemed inadvisable to interfere with the tumour which existed externally ; so the cut lip was united by a twisted silk suture over two hare-lip pins in the usual way, and the wound's edges brought together by sutures.

Remarks by Sir W. Fergusson.—Sir William Fergusson said it was a very interesting case in a pathological point of view, one that was ex-

ceedingly difficult to form a correct diagnosis of, and one which he had approached, even with his large experience in "upper-jaw" cases, with much diffidence. Here was a large external tumour, involving great part of the right cheek and running up under the zygoma; and, while the antrum did not appear to be the original seat of the disease, as the alveolar ridge and teeth were firm, and there was no bulging of its walls, yet both nostrils were blocked up, and the septum nasi was pushed over to the left side. After much consideration, the only explanation that could be arrived at was this—that, by a strange coincidence, two diseases of a separate nature and different seat had been simultaneously developed, one on the inside and one on the outside of the jaw on the same side. This view was entirely borne out by the operation. The internal disease consisted of a huge fibrous mass growing from the base of the cranium, and attached thereto by a broad pedicle. It was in close juxtaposition to the internal maxillary artery, so that no great force for the removal of the growth could be used, lest damage should accrue either to the vessel or to the numerous important structures of the vicinity. Sir William Fergusson added that considerable hæmorrhage always attended extensive operations upon the upper jaw, and that generally this was of no consequence, but that here the bleeding had been so profuse that he thought it only right to postpone the further operation for the removal of the secondary external disease until some future day.

Notes of Case continued.—The operation was performed at 3 P.M., and at 5 P.M. the patient was somewhat recovered from shock. However, his pulse sank again, and large quantities of brandy were administered—viz., ℥j every hour. During the evening of the same day he vomited nearly eighteen ounces of blood, which, no doubt, he had swallowed during the operation. The vomiting went on more or less all night.

July 12.—Patient rallied considerably. But little vomiting, and the pulse much stronger.

13th.—Patient quite recovered from shock. Takes his food well. The wound looks very well. There has been no bleeding since operation.

14th.—The hare-lip pins removed. Patient expresses himself as feeling quite well in health. Has a good appetite.

16th.—Stitches at the side of the nose removed; union has mostly taken place by first intention along the line of incision. From this time the patient had not one bad symptom; the wound healed rapidly, and he was discharged on July 31, with instructions to return to town in the early part of the winter, in order that the tumour (supposed fibrous) on the outside of the jaw might be removed also.

ART. 170.—*A Case of Dilatation of the Œsophagus.*

By Professor LUSCHKA.

(*Virchow's Archiv*, xlii., 1868; *Schmidt's Jahrbücher*, No. 7, 1868.)

Professor Luschka discovered complete dilatation of the œsophagus on post-mortem examination of a woman, fifty years of age, who ever since her fifteenth year had been able to bring up without difficulty the contents of the stomach; at a later period the regurgitated food had

been subjected to a process of rumination. Of late years she had suffered from frequent hæmorrhages and from cancerous degeneration of several lymphatic glands, which resulted in great debility, pulmonary œdema, and ultimately death. The œsophagus was dilated into a kind of stomach-like sac; when extended it measured from the lower margin of the posterior surface of the cricoid cartilage to the œsophageal foramen, 46 centimetres. As the normal length of this tube is 29 centimetres, and never in the largest male bodies exceeds 33 centimetres, it must have taken a very curved direction. The dilated œsophagus, which proved to be a spindle-shaped sac, in its middle and widest part measured 30 centimetres in circumference, and 14½ centimetres in breadth. Under normal conditions a distended œsophagus forms a tube about two or three centimetres in thickness, and seven and a half centimetres in circumference. The sac was somewhat irregular in form at the upper and middle thirds of its posterior surface. Associated with this dilated condition was an unusual thickness of the coats of the œsophagus, which, however, did not extend to the cardiac extremity; their thickness was more than double that of the normal tissues, and reached to four and a half millimetres. The layer of circular fibres was two millimetres in thickness. In this as well as in the layer of longitudinal fibres it was found that the contractile fibre cells were not perceptibly increased in size, so that a considerable augmentation in number must have taken place. There was also an extraordinary increase of the broad elastic fibres. The striated muscles were involved in the hypertrophy, though to a much less extent than the smooth muscles, but their elements could be distinguished much more readily than those of striated muscular fibre in a normal condition. The distribution of the muscular tissue corresponded to that laid down by anatomical writers; striated fibre occurred only in the upper third of the œsophagus; contractile cells made their appearance first in the oblique layers, and afterwards in the longitudinal. The lowest portion of the crico-pharyngeal muscle lost itself partly by passing transversely among the posterior fibres of the circular layer, the diminishing bundles forming loops with their convexities outwards; partly by its lowest fibres descending upon the lateral parts of the œsophagus, those above passing towards the middle line, and those placed below taking more and more of a longitudinal direction. The mucous membrane had the smallest share in the hypertrophy of the wall of the œsophagus, and was not more than three-quarters of a millimetre in thickness. The muscularis mucosæ was normal, the inner layer of the mucous coat was swollen and loose, and presented here and there tuft-like papillæ; it was of a dirty reddish-brown colour, and marked by numerous hæmorrhagic erosions. The stomach was normal, and the cardiac extremity showed no traces of any deviation from the normal state.

Art. 171.—*On Ligature of the Common Carotid Artery and the Statistics of this Operation.*

By C. Pilz.

(*Archiv f. klinische Chirurgie,* ix. 1868 ; *Schmidt's Jahrbücher,* No. 7, 1868.)

Dr. Pilz has collected the reports of 586 cases, in which the common carotid artery was tied. These cases are arranged in six tables.

1. Ligature for hæmorrhages . . No. 1 to No. 220.
2. Ligature for aneurisms . . . No. 221 to No. 306.
3. Ligature for tumours . . . No. 307 to No. 444.
4. Ligature previous to and during the extirpation of tumours . . . No. 445 to No. 513.
5. Ligature for nervous affections . . No. 514 to No. 546.
6. Ligature after the Brasdor-Wardrop proceeding . . . . . No. 549 to No. 586.

To each of these tables is appended a list of cases, the details of which have not been fully reported. The full list of cases is thus extended to 676, of which, however, not more than 600 are of any statistical value. Of these 600 cases, 319 resulted in a cure, and 259 in death ; in the remaining 22 cases the result was not given. From the number of fatal cases 29 have to be deducted, partly on account of coexisting affections of the vertebral artery, and partly because the patient succumbed to diseases which were not connected with the operation.

The proportion of recoveries and deaths to the whole number of cases contained in each table is given as follows :—

1. Ligature for hæmorrhages, 228 cases.—94 recoveries, 128 deaths. Result not given in 6 cases.
2. Ligature for aneurisms, 87 cases.—55 recoveries, 31 deaths. Result not given in 1 case.
3. Ligature for tumours, 142 cases.—87 recoveries, 49 deaths. Result not given in 6 cases.
4. Ligature during extirpation, 71 cases.—38 recoveries, 25 deaths. Result not given in 8 cases.
5. Ligature for nervous affections, 34 cases.—33 recoveries, 1 death.
6. Brasdor-Wardrop operation, 38 cases.—12 recoveries, 25 deaths. Result not given in 1 case.

Of 151 cases of ligature of the common carotid, collected by Norris, 93 resulted in recovery, and 58 in death. Of 137 collected by Velpeau 97 were cured and 40 died.

The following are the results of deligation of the common carotid, applied for hæmorrhages :—

(1.) From gunshot wounds, 39 cases—19 recoveries, 20 deaths. (2.) From injuries from other arms, 46 cases—12 recoveries, 34 deaths. (3.) From punctured wounds, 21 cases—8 recoveries, 13 deaths. (4.) From incised wounds, 23 cases—12 recoveries, 11 deaths. (5.) Secondary hæmorrhage, 25 cases—10 recoveries, 15 deaths. (6.) Hæmorrhage from tumours, 16 cases—5 recoveries, 11 deaths. (7.) Hæmorrhage from corrosion, 16 cases—5 recoveries, 11 deaths. (8.) Sponta-

neous hæmorrhage, 4 cases—2 recoveries, 2 deaths. (9.) Injuries of which the causes are not detailed, 31 cases—18 recoveries, 13 deaths.

By ranging the cases according to the ages of the patients in tables of decennial periods, it was demonstrated that the greatest number of cures occurs in subjects in the prime of life, and between twenty and thirty years of age, and then gradually diminishes; this fact is shown most clearly, as may be easily explained, by the results of operations for hæmorrhage.

The detachment of the ligature in the majority of cases occurred about the 13th or 14th day. In one instance it came away on the 4th and in one other on the 96th day

Cerebral symptoms were observed in 165 out of 520 cases, in which the common carotid had been tied. Of these 165 cases 91 died, or more than 55 per cent. Hemiplegia occurred in 50 cases, more than 8 per cent. of all the cases of operation. Of these 50 cases, 38 resulted in death. The cerebral symptoms in the great majority of cases depend upon extravasation of the blood—apoplexia sanguinea. The symptoms are caused in most part by a diminished blood supply and venous congestion. Against the objection to this view, that the cerebral symptoms must then come on immediately, it may be answered that after the arrest of the flow of arterial blood the brain tissue remains for some time saturated with nutritive fluid. The abnormal phenomena are presented for the first time when the brain is quite deficient in or has been only insufficiently supplied for some time with oxygenated blood. Sometimes more profound morbid changes of the tissue take place, as brain softening with surrounding inflammation. Thrombosis of the smallest vessels is probably associated with the softening processes.

The preservation of life and the perfection of the cure depend chiefly upon the integrity of the other carotid, of the vertebral artery, and of the arterial circle of Willis. In one case both common carotids were tied, one after the other. This operation resulted in coma. Ligature of both common carotid arteries was performed in twenty-nine other instances. In only a few of these cases were the two operations followed by critical symptoms. In one case reported by Müller, the first deligation was followed by hemiplegia, but no cerebral symptoms were presented after the second. These singular facts may be explained thus: After ligature of the second carotid the collateral circulation is rapidly established in consequence of the vertebral artery and other large branches from the subclavian coursing along the neck having previously found fresh paths marked out for them.

Vision and hearing are seldom impaired after deligation of the common carotid; deglutition on the other hand is frequently disturbed in consequence of injury of the numerous nerve twigs going to the pharynx; this occurred in 55 cases. Speech is often affected; 15 cases of aphonia are reported, and four of hoarseness.

Dr. Pilz found that after-hæmorrhage occurred in 99 cases, including those in which there was bleeding from the aneurismal sac. In 50 cases there was bleeding from the operation wound in consequence of the vessel not having been sufficiently plugged. Extensive separation of the sheath of the artery also favours mortification of the exposed portion of the vessel and after-bleeding.

The following conclusions have been derived by Dr. Pilz from his investigations :—

Ligature of the common carotid is by no means to be considered as an unimportant operation, and should be carried out only when all other methods (digital compression included) have been tried. Before tying the carotid the surgeon should always make sure of the condition of the carotid on the opposide side, and of the subclavian, since the formation of a sufficient collateral circulation depends upon the integrity of these vessels.

In a case of punctured wound behind and below the ear, the surgeon should always recognise the possibility of an injury to the vertebral artery.

In cases of hæmorrhage from incised and other wounds, an attempt should always be made to apply a ligature to the two ends of the divided artery.

In cases of spontaneous aneurism in patients between twenty and thirty years of age, Valsalva's treatment, associated with digital compression, should be tried before recourse is had to deligation.

In cases of orbital aneurism the ligature may be applied to the carotid when digital compression has been unsuccessful. In cases of tumour, and also for epilepsy, the ligature is always to be rejected. For tic-douloureux it need not be altogether rejected, although the utility of the operation is very uncertain.

The Brasdor-Wardrop operation for the treatment of aneurism of the arteria innominata deserves full consideration whenever Valsalva's method (modified) and digital compression can no longer be thought of. The surgeon may compress the subclavian and tie the carotid, and afterwards, if this treatment be insufficient, apply a ligature to the subclavian in front of the origin of its large branches.

(B) CONCERNING THE TRUNK.

ART. 172.—*On Thoracentesis.*

M. GINTRAC.

(*Société Médico-Chirurgicale des Hôpitaux et Hospices de Bordeaux; Mémoires et Bulletins*, 1867.)

1. Thoracentesis is an indispensable necessity whenever there is asphyxia excited by an effusion, without regard to the duration, the nature, and the cause of this effusion, or to the concomitant symptoms.

2. The operation is indicated in excessive effusion, particularly if it, with or without displacement of the neighbouring viscera, has any tendency to increase, or even if it remains stationary in spite of energetic and sufficiently prolonged treatment.

3. It may be of service in moderate effusion; its advantages, however, are then questionable, since it is necessary to employ a concurrent medical treatment.

4. It should be performed without delay when syncope occurs in the course of considerable pleuritic effusion.

5. It should be also performed if abundant pleuritic effusion is associated with an anæmic condition, or with morbid changes in the lung of the opposite side.

6. It is contra-indicated in acute serous effusions so long as the inflammatory attack remains. The fluid in these cases may be absorbed, and puncturing will not shorten the duration of the disease.

7. It may be advised in cases of chronic serous effusion, particularly if one considers the sad effects produced by the retention of fluid within the pleural cavity. Nevertheless it should not be employed without consideration.

8. It is a last resource in hydrothorax accompanying phthisis in its first stage, or organic lesions of the heart, particularly if the effusion is likely to hasten death.

Art. 173.—*Three Cases of Perinephritic Abscess, complicated with Pulmonary and Pleuritic Disease; Incisions into the Renal Region: Recovery.*

By Henry I. Bowditch, M.D.

(*Boston Med. and Surg. Journal*, July 9, 1868; and *New York Medical Journal*, November.)

These cases are of rare occurrence, and the history of the three given by Dr. Bowditch is unusually instructive. They are too long, however, to transfer to our columns, and any summary would weaken their value. Dr. B.'s comments, however, contain all the essential points in diagnosis and treatment, and cover the whole of the teachings these cases convey:—

"These cases were three of the most interesting I have met with since commencing my profession. Singularly enough, they are the only ones I have ever seen of this very rare disease, viz., of perinephritic abscess, as Trousseau calls it. Still further—rare as the disease is in the practice of any one, these specimens all came under my notice during the brief period of nineteen months, and the two severest were within one month of each other. In all of them the abscess pushed upward into the thoracic cavity, and in one instance the perinephritic origin of the thoracic disease was marked by the severe thoracic symptoms that supervened after comparatively mild signs of disease below the diaphragm.

"Analyzing them, I find as follows: Patients all males, of the ages 27, 29, and 38 years respectively, and following the professions of physician, printer, and clerk. The disease commenced always near the right renal and cæcal region, and in all was preceded by some debilitating influences. Superadded to these, there were in two an unusual physical labour and physical strain. In one there is a special strain (from digging) of the psoas muscles, and in the other exposure to cold and wet in a swamp while working.

"The prominent symptom in all was *pain*, generally in the back and at the right renal region: at other times it was more in front and near

the cæcum. It was, however, usually felt in both of these places, and sometimes down the legs. This pain caused lameness, which at times was severe and confined the patient to the bed with his knees flexed. At first, this pain was in one case superficial, but gradually it went deeper, and in two it was excruciating and attended with violent paroxysms of distress. There was at times slight obstruction of the bowels, easily removed, however, by enemata or by gentle cathartics. With the dejections came relief to temporary urgent symptoms. The appetite was lessened or wholly lost, and in two there was nausea; but, as a rule, there was no disturbance of the alimentary canal, nor was there of the urinary functions, except that the urine was in one case temporarily redder than normal. In one case, where the urine was specially examined by chemistry and the microscope, no albumen, blood, or casts were noticed. No jaundice or other disease of the liver in any of them; no general peritonitis; no cephalic symptoms.

"In all three, a tumour was found which could be grasped between the two hands placed in front and in the renal region, and filled up that space. It was usually rounded, doughy, rather non-elastic, and generally non-sensitive.

"In all there were signs that the abscess extended up into the right pleura, without apparently affecting the liver, after having probably forced its way behind that organ and along the psoas muscles, under the right crus of the diaphragm. This chest affection was in one case revealed only by auscultation and percussion, the respiratory murmur being less in the right back than the left, and some coarse mucous râles on friction were heard at the very lowest part, while no subjective symptoms occurred in that case. In another there were cough and a slight pleuritic effusion, coming on during recovery, and ten days after the opening had been made by the surgeon. Finally, in a third, the thoracic symptoms were so severe that the patient was held to be dying of them, yet the history of the symptoms and the physical signs at examination proved that pleurisy existed on the right side, while acute pneumonia had begun on the left.

"In one, only, the breath was fetid, almost fæcal.

"The pulse varied exceedingly, sometimes little accelerated, at others being very rapid. In all there were marked chills with fever, and copious night sweating. Emaciation and debility took place in all.

"The treatment in all was tonic, with at times leeches, counter-irritants and opiates, with laxative enemata generally when needed during the earlier period. But the opening by the surgeon in the right renal region was in all the first and prominent step toward a cure, which, as we have seen, always took place. In all the bistoury and a free opening were used with great deference to the usual rules of surgery. I cannot but ask whether the trocar, either a small one with a suction-pump or one of larger size, might not be tried at least, and thus, perhaps, one great danger of operating with the bistoury be avoided.

"It will be remembered that very severe hæmorrhage occurred in one of our cases. Trousseau names this accident as being at times hazardous. Certainly it was in our first case, the patient being very bloodless, with ringing in ears, &c. Nothing but the promptest surgical

skill apparently saved the patient. In the second and third there was no hæmorrhage, and the happy influence of the operation was undoubted—immediate in one, and more slow but unequivocal in the other.

"In two the kidney could be felt, floating as it were, at the bottom of the abscess.

"The recovery was prompt in two, in about six weeks. In the other, where the hæmorrhage occurred, the patient had a longer convalescence, and did not resume business till after six months.

"A few words on the literature of this subject.

"Great Britain seems almost wholly to have ignored the existence of this disease, so far, at least, as it may be considered one to which physicians would be summoned. Neither Graves, nor Watson, Aitken, Todd, Tanner, nor Chambers, alludes to it. Bennet, of Edinburgh, gives a few cases of abscess of the kidney—but not outside of it, except secondarily. Neither Dr. Wood nor Dr. Flint in this country notices it.

"Trousseau* (preceded by Rayner,† Parmentier, and others, who have given cases) first made an elaborate article upon the subject. Monsieur Trousseau gives many causes: fatigue, strong muscular efforts, contusions, repeated and violent shakings of the kidney, renal calculi, typhoid and puerperal fevers, &c.

"He speaks of the very great infrequency of the disease, and of its very insidious approach. He alludes to most of the symptoms recorded in my cases. Among them he dwells chiefly on the swelling in the lumbar region, the pain in the same part, the chills and fever, emaciation and debility. He does not particularly allude to two prominent facts noticed in all of our cases, viz.: the lameness in the movements of the right legs, owing to an interference with the free play of the psoas muscles, and the extreme frequency of pulmonary and pleuritic complications in consequence of the extension of the disease. And yet the anatomical structure of the parts concerned proves that nothing can be easier than the transmission by contiguity of the perinephritic abscess into the thorax. The psoas muscle extends up into the thorax behind the pillar of the diaphragm. Hence any abscess, pressing on or inside the muscle, will very readily gain access to parts above the diaphragm. It was the remembrance of the serious complications caused by this anatomical arrangement in the preceding cases that induced me, in the last case, to urge a speedy operation, when, according to the common rules of surgery and the absence of distinct fluctuation, a delay would naturally have suggested itself. In fact, one surgeon urged delay. Dr. Hodges, I think, was somewhat influenced by representations from Dr. Blake and myself, urging him to explore, at least.

"It is a singular fact, however, that notwithstanding the pus in these cases goes directly back of the liver, jaundice was not seen in our cases, and is, I think, a rare complication of the disease."

In this connexion we may add the following brief account of a case

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* "Clin. Med." vol. iii. p. 713. Paris. † "Maladies des Reins," 1839.

of the same nature, which was reported at a recent meeting of the Clinical Society of London, by Dr. Southey:—

"The patient had previously suffered from stricture with vesical catarrh, subsequently passing pus in albuminous urine. A deep-seated swelling formed in the left loin, which varied in size according to the greater or less quantity of pus present in the urine. Presently a large amount of pus was discharged after the fæces, and the patient began to suffer from the extreme exhaustion. The tumour pointed and was punctured; almost five ounces of deeply-seated pus escaped. Later on, symptoms of dysentery caused much suffering, but after a time the discharge became less, and the general health improved. Eventually the opening in the flank closed, and the patient recovered, but the bladder was permanently drawn up toward the left kidney, and there were pain and spasm in micturition. In the absence of any evidence of caries of the spine, or of embolism, or of renal calculus, Dr. Southey concluded that suppuration began in or about the kidney, and the disease was throughout of a local character."

Art. 174.—*On the Treatment of a large Hydatid Cyst by Injection of Iodine.*

By Professor Skoda.

(*Allgemeine Wiener Medizinische Zeitung*, No. 19; and *British Medical Journal*, October 10.)

Professor Skoda has lately reported a case of large hydatid cyst in the left hypochondrium, which was treated successfully by injecting a solution of iodine. The patient was a man, aged forty-six years, who had suffered for some months from constant and severe pain in the region of the spleen. On his admission, a large fluctuating tumour was perceived on the left side of the abdomen, which reached from the upper border of the eighth rib to the crest of the ilium. On October 27th, an exploratory puncture was made, and several ounces of a clear, pale yellow, and serous fluid drawn off. This, when examined under the microscope, was found to contain the hooked processes of echinococci. On November 2nd, another puncture was made into the tumour, and, after the removal of a large quantity of thick reddish discharge, five ounces of the following mixture were injected: tincture of iodine, four ounces; water, one ounce; iodide of potash, one scruple. This injection was allowed to remain for thirteen minutes. In the course of two hours, iodine was discovered in the urine. The patient was subsequently affected with salivation, inflammation of the parotid gland, conjunctivitis, and swelling of the eyelids. A second injection was made in April of the present year. This, like the former operation, resulted in severe abdominal pain. The patient gradually improved, and at last was discharged, strong, and in perfect health.

Art. 175.—*Case in which a large Hydatid Cyst was removed from the Chest, with ultimate complete recovery.*

By Reginald Southey, M.D.

(*St. Bartholomew's Hospital Reports*, vol. iii. ; and *British and Foreign Med.-Chir. Review*, October.)

The subject of this interesting case was a female, aged thirty-one, who suffered from a variety of anomalous symptoms, somewhat resembling neuralgia and hysteria, from cough, though without expectoration, pain in the right side of the chest, and dyspepsia. No benefit followed from the remedial measures adopted, and change of air seemed to make her worse than before. The local indications and the physical signs were very obscure, but at last a marked bulging made its appearance upon the right side of the spine, extending into the interscapular region. An exploratory incision was then made by means of a trocar, and a large quantity of puriform serous fluid was evacuated, and some relief was afforded. But eventually a free incision was made between the sixth and seventh ribs, and a soft jelly-like mass protruded, which was recognised as part of an hydatid cyst, which was fortunately entirely removed, its size being about that of a pig's bladder, and it was perfectly unattached. It appeared to be formed in the sac of the pleura above the diaphragm, and was wholly unconnected with the liver. The patient was restored to health in less than three months after the operation, and although she suffered from occasional pain in the right side, and the lung on that side was probably permanently altered in structure, she appeared stouter and better looking, and actually increased in weight more than a stone.

Art. 176.—*A Case of Penetrating Wound of the Abdomen and Protrusion of the Pancreas.—Removal of a Portion of Pancreas with favourable result.*

By Dr. Kleberg of Odessa.

(*Archiv f. klinische Chirurgie*, ix., 2, p. 523 ; and *Schmidt's Jahrbücher*, No. 8, 1868.)

A man, sixty years of age, received, whilst stooping, a wound in the abdomen with a knife; this wound was horizontal, one inch in length, and placed midway, in a line with the right mamma, between the umbilicus and the arch of the ribs. From this projected a body about three inches in length and two in breadth, thick and broad at its free extremity; it was covered by a smooth membrane, and was of a brown colour and tough consistency. The projection was closely embraced by the edges of the wound, and appeared to be strangulated; by percussion it was made out that the lower margin of the somewhat enlarged liver was placed about one inch and a half above the wound. The pain was slight. Pulse 72. The projecting body could only have been the head of the

pancreas, since it was evident at a glance that the stomach, intestines, and liver had not been involved; moreover it could not have been a portion of the omentum, since there was no fat on it, whilst the patient was very corpulent and the projecting body presented a firm regular mass. Since a return of the projecting portion was not deemed feasible for fear of probable symptoms of strangulation, two long needles were passed through the edges of the wound and the neck of the protrusion, a loop of silk thread passed around the latter, and then the projecting body was removed by one stroke of the knife. Profuse hæmorrhage was immediately arrested by tightening the thread. The excised body consisted of a firmly compressed convolution; in its long axis passed a canal which was surrounded by rounded red bodies, which last when magnified two hundred times were found to be enclosed in loose cellular tissue, and showed a number of arborescent and branching ducts, the ends of which terminated in a conglomeration of clear and transparent vesicles. The tissue of another pancreas taken from a fresh corpse presented the same formation, except that the ducts were narrower and the vesicles smaller, which could be accounted for by the fact that the individual had died of tuberculosis. With regard to the subsequent course of the wound in the patient, it may be said that no fever or peritonitis resulted; the ligature and the enclosed portion of the pancreas came away on the tenth day, and on the twenty-second day the patient was discharged cured, with a depressed funnel-shaped cicatrix. The nutrition of the patient did not suffer in any way, and there was every sign that the remaining portion of the pancreas fulfilled the functions of the whole gland.

Art. 177.—*On Injuries of the Spine.*

By John Ashurst, junr., A.M., M.D.

(*On Injuries of the Spine.*)

From the tables and from the considerations contained in his work on *Injuries of the Spine; with an analysis of nearly four hundred cases*, the author thinks the following conclusions justifiable:—

"1. Injuries of the spine are not nearly so fatal as is generally supposed, and they have been, not unfrequently, completely recovered from.

"2. By watching carefully the symptoms and knowing the lesions which they indicate, the patient's progress towards health or death can be pretty accurately foreseen in most cases.

"3. Whenever there is reason to believe that one or more vertebræ have been displaced, extension should be employed: temporary, if that be sufficient; if not, continuous.

"4. In no case do resection or trephining offer a reasonable prospect of improving the patient's condition, but, on the contrary, there is reason to fear that they would increase the chances of a fatal termination.

"5. Those cases of spinal injury which are not adapted for the employment of extension, should be treated in accordance with ordinary rational and physiological principles.

"6. No new mode of treatment is entitled to adoption in a class of injuries so serious as this, unless it can be shown by clinical experience that it is at any rate *not less successful* than the modes commended to us alike by reason and long experience."

Art. 178.—*A Case of Ilio-Psoas Abscess.*

By A. Hammer, M.D.

(*Humboldt Med. Archives*, July, 1868; and *New York Medical Journal*, November.)

We refer to this case with the special view of calling attention to the novel method of treatment adopted to relieve the pain and discomfort caused by the prolonged confinement in bed. The case also involved a nice question of diagnosis in its earlier stages, and is altogether quite instructive:

The patient was a young man of about thirty-seven years of age, who, previous to the attack of illness under which he succumbed, had enjoyed excellent health, and was rather noted for his vigour and ability as an amateur gymnast. During the winter he had been travelling in Illinois on business, and had been much exposed to the inclemencies of the season, and on his return to the city was taken ill on the 6th of December, and was treated by Dr. Engleman for rheumatism, who afterward, from the symptoms and complications, thought the attack to be morbus coxarius. Upon Dr. E. leaving for Europe, the case was left in charge of Dr. Castlehuhn. Dr. Hammer had been called in consultation about the middle of April, and found the patient confined to bed. The left leg was flexed and rotated inward; the hip and thigh were both enlarged, and he had severe pain around the hip-joint, and extending to the knee; there was an abscess just below the greater trochanter, and fluctuation discoverable below Poupart's ligament, on the anterior and internal side of the thigh (Scarpa's triangle). Dr. H. was disposed to believe that the joint was diseased, but, for the purpose of a more accurate investigation of the case, the patient was put under the influence of chloroform, when no signs of disease of the joint were discoverable, and the abscess was pronounced to be periarthritic. Within the next few days fluctuation could be detected beneath Poupart's ligament, within the pelvis, and could be traced along the crista ilii. Dr. Hammer, under such circumstances, pronounced the abscess retro-peritoneal, within the ilio-psoas muscle, and this diagnosis was fully confirmed, when still a few days afterward fluctuation could be felt below the twelfth rib near the spinal column.

Both the abscess below the trochanter and that in the groin were subcutaneously evacuated by the trocar, but, refilling rapidly, recourse was had to drainage-tubes. The pus in the abscess below the trochanter becoming putrid from access of air, the drainage-tubes were removed from both abscesses, and that below the trochanter was laid open its whole length—about eight inches—and filled with dry charpie.

An incision was made below the ribs, and injections made, first of clear water, and followed by diluted carbolic acid. The discharge not diminishing, tinct. iodine was repeatedly injected, but without benefit.

When Dr. H. first saw the patient he had large bed-sores on both nates, and on the sacrum; he was very weak and prostrated; completely emaciated; his tongue was covered with aphthæ; had no appetite; repeated rigors followed by high fever, and unable to lie in any position without excruciating pain. To obviate this latter trouble it was finally decided to suspend him in a permanent water bath of about 90°, in which he remained with comparative comfort for twenty-seven days, when death relieved him from his sufferings. In the beginning, the bath was decidedly beneficial, and in combination with antiseptic remedies and stimulant treatment all unfavourable symptoms were markedly ameliorated. The aphthæ disappeared; the pulse fell from 130 to 85; his appetite increased enormously; he slept comfortably, and for the first time in many weeks could rest with comparatively little pain. So marked was the improvement that his friends felt confident of his final recovery; but the constant drain upon his system from the profuse suppuration proved so exhausting that he finally succumbed to inanition, and died in the bath, as though falling into a peaceful sleep.

The *post-mortem* revealed an abscess extending along the iliacus and psoas muscles, and diffusing itself between the soft parts surrounding the joint, and even on the anterior external portion of the thigh. The capsule of the joint was perfectly intact, thus giving positive evidence that the suppuration had been entirely peri-arthritic. The joint on being opened presented the interesting appearance shown in the specimen: The cartilage covering the head of the femur, and lining the cavity of the acetabulum, was in a state of softening, in some places showing the cancellated structure of the bone; and near the centre of the acetabulum even the osseous structure had been absorbed, leaving a spot about the size of a pea, which, on the internal or pelvic side of the bone, was only closed by the covering of periosteum. There was no pus in the joint, and only a very small amount of a dirty-looking fluid, the detritus of the process of softening.

Dr. H. expressed the opinion that the affection of the joint had only supervened during the last four or five weeks of the man's illness, inasmuch as the most careful examination, under the influence of chloroform, when he first saw the patient, did not reveal any kind of morbid affection of the articulating surfaces; and he further believed that it was the mere result of the pressure of the head of the bone in the acetabulum, caused by the continued contraction of the surrounding muscles.

With regard to the so-called pathognomonic pain in the joint and in the knee in the beginning of the disease, and which had led the first physician to diagnosticate rheumatism and coxitis, he stated that a retroperitoneal abscess upon the ilio-psoas muscle would undoubtedly cause such an irritation of the crural nerve by pressure, &c., as to give rise to the same symptoms.

Art. 179.—*On Aneurism of the Gluteal Artery.*

By M. Servier.

(*Gazette Hebdomadaire*, Nos. 21, 22, 1868.)

M. Servier has collected seven cases of aneurism of the gluteal artery. The aneurism was traumatic in two of these cases, and spontaneous in the remaining five. The memoir concludes with the following remarks on the etiology, pathology, and treatment of this surgical affection :—

The etiology of spontaneous aneurism is very obscure. Among the subjects of the five reported cases of gluteal aneurism there were four men and one woman. It is known that spontaneous aneurism, particularly of the superficial arteries, occurs much less frequently in the female than in the male. In M. Broca's tables of external aneurisms, females furnish about one-fourteenth of the cases. In the five reported cases, the age of the female is not indicated; the ages of the four men were thirty-three, twenty-nine, sixty, and thirty-eight years. According to M. Broca's tables, aneurisms are observed most frequently in subjects from thirty to fifty years of age. Aneurisms of the gluteal, though the number is small, have not departed from this general rule.

In none of the five cases is any mention made of any vascular lesion, either atheromatous or calcareous, affecting the gluteal or other arteries. Lesions of this kind, which have been frequently invoked as causes of aneurism, are wanting in a great number of cases.

Syphilis and alcoholic excesses exert a decided influence upon the vitality and nutrition of the walls of arteries. No mention is made of syphilis in our five cases; in one it is stated that the patient had had intemperate habits.

The influence of mechanical causes is to be recognised in the five cases. In one reported by Atkinson, of York, it was stated that the tumour came on after a violent blow caused by a stone. In White's case, the patient had had frequent falls, and it was supposed that the aneurism had been produced by repeated striking of the left buttock. In another case the patient, in making a violent effort to recover himself after a false step, fell against a wall, and immediately afterwards felt a sharp pain in the right thigh, and perceived that this part of the body had increased in size. In this case there was neither fall nor direct blow upon the gluteal region. Finally, in a case reported by M. Sappey, it is related that the aneurism was developed after a fall upon the buttock. Here, then, are four cases in which an injury was pointed to as the direct or immediate cause of the arterial lesion. Had the arteries undergone some special morbid change? This is probable; but the morbid change must have been an inappreciable one, and not the classical disease of atheroma or calcareous degeneration. M. Servier thinks from the above facts that we have good reasons for recognising the positive influence of injuries upon the production of aneurism of the gluteal artery.

The diagnosis of gluteal aneurism may be very difficult. Doubtless, when the tumour is limited, and presents pulsations and a bruit de

souffle, the nature of the disease can be readily recognised; but it is not always so, especially at the commencement, when the surgeon may be much embarrassed to decide between an inflammatory swelling and an aneurismal tumour. A case was observed by M. Servier in the Hôtel Dieu of Lyons, which required great skill to decide the question of diagnosis. John Bell made an exploratory puncture for the purpose of finding out the nature of the swelling with which he had to deal. In a case reported by Pomeroy White, of Hudson, U.S., the tumour was taken for an abscess, and the aneurism was not recognised before an opening had been made into it with a bistoury.

The diagnosis becomes more difficult when the surgeon has to distinguish an aneurism of the ischiatic artery from one of the gluteal. These lesions have already been confounded in two instances.

In the reported cases of gluteal aneurism, a cure was attempted by means of ligature of the gluteal artery, by ligature of the internal iliac, and by coagulating injections. M. Servier discusses only these three methods of treatment, and leaves out of consideration remote compression, which is not applicable in these cases, and the method of Valsalva, which is reserved for those cases where active surgery cannot interfere.

M. Servier complains that the term "ligature of the gluteal," *ligature de la fessière*, which exists in the majority of works on operative surgery, when dealing with gluteal aneurism, gives a false idea of the operation that has been practised. In fact, these words, "ligature of an artery," in cases of aneurism, implies that the operation has been performed according to Anel's method—that is to say, ligature of a vessel above the aneurism in a sound part of its course. The operations performed by John Bell and Carmichael were not of this kind; those surgeons cut into the sac, and it was only after the aneurism had been opened that they reached the affected vessel; they carried out *the old method.* We may say, then, that there are no instances in surgical science of ligature of the gluteal artery for aneurism, according to the method of Anel.

By looking to the results already obtained, we might recommend almost indifferently ligature of the gluteal, or that of the internal iliac, and even promise a favourable result. But if it is ever true that success does not justify enterprise, it is perhaps especially so in surgery. Certainly the list of successes is a very good one: two deligations of the gluteal, two cures; four deligations of the internal iliac, three cures; and the patient who succumbed living for twenty days after the operation. It is open to doubt whether successes would have occurred in the same proportion if the operation had been more frequently required.

Let us endeavour, in the first place, to determine which of these two operations, ligature of the gluteal and ligature of the internal iliac, answers better in cases of aneurism of the gluteal artery; we will then inquire whether the method of coagulating injections ought not to be preferred.

When an operation is applied to the treatment of any affection, it ought to fulfil two conditions: the first is efficacy, the second immunity, more or less. Ligature of the gluteal fulfils very well the condi-

tion of immunity; but is it efficacious? M. Servier does not think that it is. It is generally admitted that the ligature, when applied according to Anel's method—that is to say, without leaving collateral branches between it and the aneurismal sac—does not give such good results as the ligature applied after the proceeding of Hunter. M. Broca has insisted particularly on this point, and gives an explanation of it. It is for this reason that M. Servier thinks ligature of the gluteal less efficacious than that of the internal iliac.

Another objection to ligature of the gluteal is, that we must deprive the patient of the benefits of anæsthesia. How can one venture to give chloroform to a patient placed for a long time on his belly?

Finally, is it really possible to carry a ligature around the gluteal artery, when its course, always a short one, is further diminished by the presence of an aneurismal tumour? It is certain that up to the present time this operation has not been performed. As has been already remarked, John Bell and Carmichael cut into the aneurismal sac, and tied the artery at the bottom of the wound, after the tumour had been opened.

Ligature of the internal iliac would without doubt prove more efficacious in curing an aneurismal tumour. But this operation is a very formidable one, and, as can be readily imagined, would not be willingly resorted to by the surgeon, except in cases of urgency.

A distinction must be made in cases of gluteal aneurism. It is necessary not to confound cases in which the aneurismal sac exists in all its integrity with those in which the sac is broken; in other words, cases in which hæmorrhage is not to be expected and those in which it is imminent. In the first class of cases, ligature of the internal iliac may be recommended, since this operation in the absence of possible accidents offers many chances of success; in the second class, on the contrary, this operation would probably be insufficient in consequence of the numerous anastomoses between the arteries of the pelvis. Then the proper proceeding would be ligature of the gluteal, after complete opening of the sac, or a ligature of the common iliac.

All the authors of the different treatises on operative surgery insist upon the dangers of deligation of the internal iliac artery. Velpeau rejects it in cases of aneurism of the gluteal.

Lisfranc has alluded to the gravity of this operation, and Sedillot recommends ligature of the gluteal. M. Guerin, on the other hand, prefers deligation of the internal iliac. M. Bouisson is a strong supporter of deligation of the gluteal, and states that it can be executed with less difficulty than that of the internal iliac.

We have then two operations before us: one frequently impracticable, and whatever may have been said of it, of very doubtful efficacy, extremely difficult, the performance of which forbids the use of anæsthetic agents, and exposes the patient to the dangers common to all deligations performed immediately above an aneurismal sac, but which operation, in the majority of cases, has not been followed by severe symptoms. The other operation, on the contrary, will in every way be advantageous when the sac is intact, and there is no hæmorrhage; but the performance of this is encompassed by a host of the most serious dangers.

But fortunately for the patient, deligation of an artery is not the

only known method to be employed in the treatment of aneurisms; without speaking of compression, which is inapplicable in cases of gluteal aneurism, the practice of injecting coagulating fluids may be considered; and M. Servier thinks that the application of this plan of treatment is rarely indicated with such certainty as it is in aneurism of the gluteal artery.

The treatment by coagulating injections has been criticised very severely by Malgaigne, Richot, and Léon le Fort. M. Servier has no intention of proposing it as a general method applicable to all cases, and one to be preferred to the ligature or to compression; he merely thinks that, with all its imperfections, it may render eminent services in certain special cases, and that aneurisms of the gluteal are exactly of this kind. The employment of coagulating injections is a *pis aller*, but still one that the surgeon is happy to apply. The perchloride of iron has already done good service. In 1853 there were but two reported cases of cure from its use; at the present time there are nearly twenty. This agent ought not to be considered as inert and powerless, or as a palliative, but rather as one upon which the surgeon has a right to rely, and from which he may hope for complete and certain cures.

In concluding, M. Servier states that the following line of conduct seems to him to have been traced out by the practice of surgeons and the precepts of authors. When an aneurism can be treated by remote compression, this method should be resorted to and practised either by the fingers or by instruments. Such cases as these are, for example, aneurisms of the popliteal. Whenever he is able, the surgeon should treat aneurism by compression. When compression is inapplicable—as for example, in aneurism of the carotid—one has recourse to the ligature according to the proceeding of Hunter. But when compression is not possible, and deligation seems likely to be useless or too dangerous, there remains the plan of coagulating injections. This is not always an inoffensive one, and cannot be applied to certain regions—to an aneurism of the thyroid artery, for example—because one of the chief accidents to be feared is inflammation of the sac, and consecutive phlegmon, and this in the thyroid region may have very serious consequences. In the gluteal region, however, a phlegmonous inflammation, though always a serious lesion, is much less formidable.

Applying these precepts to aneurism of the gluteal artery, we may conclude that—

Ligature of the gluteal is almost impracticable, and with great probability insufficient. It has no facts in its support, for the professed deligations of the gluteal were operations according to the old method —viz., opening of the sac.

The only case of deligation according to Anel's method is one reported by Mr. Sappey (ligature of the ischiatic), which was not followed by a cure.

That ligature of the internal iliac is an operation which might prove efficacious, but which is encompassed with formidable dangers.

That injection of perchloride of iron is practicable in all cases, offering sufficient chances of cure, and when performed with requisite precautions, not likely to be the cause of serious accidents.

Art. 180.—*The Treatment of Hæmorrhoids.*

By J. Mulvany, M.D., L.R.C.S.E., &c., Assistant-Surgeon Royal Navy.

(*Medical Press and Circular,* June 10.)

The author of this paper says that the rationale of treatment is extremely simple, and consists in the adaptation of remedial agents to correct the pathological conditions on which they depend—in other words, to remove constipation, restore peristaltic action, give tone to the paralysed muscular tissue of the great intestine, constringe the dilated hæmorrhoidal capillaries by increasing the contractility of the ddle coats of their supplying arteries, and thus enable the veins to resume their normal degree of rectitude.

In belladonna we possess an agent capable of supplying by its physiological action all these desiderata. Because, acting through the intestinal branches of the solar plexus, it will increase peristaltic action, and restore tone to the paralysed muscular fibres of the colon and rectum, by which means the bowel may be unloaded and kept in a state of solution, and pressure be thus taken off the hæmorrhoidal plexus and semicircular festoons, a desideratum which may be much accelerated by the previous administration of a dose of castor oil, to clear out the bowel and facilitate absorption.

Again, by acting on the vasomotor nerves of the hæmorrhoidal arteries it will promote the contractility of their muscular tunics, lessen the supply of blood to the trajet-anal, and thereby check bleeding; and, at the same time, diminish the size of, and ultimately remove, hæmorrhoidal tumours requiring constitutional treatment alone.

For the external pile, the grease which runs from the hot bearings and eccentrics in the engine-room of a steamer will be found an unfailing remedy. As the liquefied grease drops from the bearings, it is caught in a "save-all," and on cooling is fit for use. It should be mixed with one-eighth its bulk of lard. It then forms an ointment of a pale blue colour, the efficacy of which is so well known to the stokers that they treat, *sub rosa*, nearly all the cases of piles that occur on board ship. For the varieties of internal hæmorrhoids, castor oil and belladonna, administered by the mouth, and the ointment applied locally, will usually suffice.

Art. 181.—*Treatment of Internal Hæmorrhoids by the Gas Cautery.*

Cases under the care of Mr. William Stokes, of the Richmond Surgical Hospital. Reported by Mr. J. A. Ross, L.R.C.S.I.

(*British Medical Journal,* October 31, 1868.)

The treatment of internal hæmorrhoids by the gas cautery is becoming the favourite mode of dealing with this affection in Mr. Stokes's wards.

In his opinion, it is an operation attended with less risk, and, when the hæmorrhoidal clamp of Langenbeck is applied, certainly less pain, than any other that has been devised for their removal. In no case, either, has the slightest tendency to contraction or narrowing of the rectum been observed after the operation. The following cases, which, among others, have recently been under observation, may be briefly mentioned as strikingly illustrative of these advantages.

Case 1.—William G——, aged forty-two, was admitted into the Richmond Hospital last March. During the last two years he had suffered from hæmorrhoids, which at times gave him intense suffering. He had a very anæmic appearance, produced, most probably, by the frequent hæmorrhages from the tumour. His bowels, he stated, had been habitually constipated; and each evacuation was attended with very great pain. On these occasions the tumour invariably protruded; and the subsequent reduction of it was attended at times with much difficulty. The patient's general health was very much impaired from the long-continued suffering and frequent hæmorrhages. Two applications of the gas cautery were found necessary to destroy the tumour in this case; and, a week after the second cauterisation, the patient was enabled to leave the hospital and return home. Nothing untoward occurred during his convalescence In September, six months after the operation, he presented himself for examination, and there was no evidence of any recurrence of the disease, and the patient was in every respect in perfect health.

Case 2.—Jane M——, aged fifty, was admitted into the Richmond Hospital last June. She suffered from a very large hæmorrhoidal tumour, which gave her great distress, and at times bled copiously. It was one of the largest hæmorrhoidal tumours Mr. Stokes had ever witnessed. In appearance it bore some resemblance to a cluster of ripe purple grapes. This case required three applications of the gas cautery, none of which were attended with any inconvenience to the patient. In truth, on the last occasion, the patient was not aware of the moment when it was applied. The freedom from pain during the application of the cautery was due, as Mr. Stokes observed, to the complete manner in which the tumour was secured and strangulated at its base by the hæmorrhoidal clamp. This patient has occasionally been seen and examined at the hospital since the last application of the cautery; and she has always expressed herself as having been completely relieved, in perfect health, and able to resume her ordinary avocations.

Case 3.—James M——, aged forty, was admitted into the Richmond Hospital last August. He suffered great inconvenience from a small cluster of internal hæmorrhoids, from which there was occasionally copious hæmorrhage. He suffered much at times from their becoming strangulated, also from habitual constipation. This hæmorrhoidal tumour was destroyed by the gas cautery at one sitting, and the patient soon afterwards left the hospital quite relieved. In this case, like the last, the patient was not aware of the moment when the cautery was being applied.

In none of these cases was chloroform administered. The only time the patients feel any pain in this operation is during the application of the clamp. It is, however, only momentary.

The following points are of practical importance, and should be borne in mind in the performance of this operation. First, the clamp should be fastened at the base of the tumour, so as to strangulate it completely. Secondly, a piece of moistened lint should be placed behind the broad blades of the clamp, as they are apt to become too hot if the cauterisation has to be very deep; and, lastly, care should be taken to bring the platinum discs of the cautery to a white heat before applying them to the hæmorrhoidal tumour. If these precautions are taken, the application of the cautery will be found to be *painless*, and the administration of chloroform (which, according to M. Nélaton, is in this operation indispensable), quite unnecessary. This eminent surgeon did not, however, employ a clamp previous to the application of the cautery, but used to pass through the base of the tumour a wire, which was held by an assistant, to prevent the hæmorrhoid slipping back into the rectum; and, surrounding the mass by a fold of moistened linen having an opening in it corresponding to the tumour, the cautery was then applied. Performed in this manner, the operation must doubtless have been painful, and necessarily requiring chloroform. The introduction of the clamp must, therefore, be looked upon as a very great improvement.

Art. 182.—*A Case of Fracture of the Pubis from Muscular Contraction.*

By M. Letenneur.

(*Gazette Hebdomadaire*, No. 37, 1868.)

The following report was presented by M. Guyon for M. Letenneur, to the Société Imperiale de Chirurgie:—

"Rose ——, aged forty-three years, was engaged in the month of April last in moving from a boat to an adjoining quay heavy stones, the average weight of which was 150 pounds. She had seized one of these stones, and raised it with difficulty as high as the pubis, against which region the heavy body was allowed to rest. The woman's body was bent forwards, and in order to place the stone upon the surface of the quay, it was necessary for it to be elevated for another twenty or thirty centimetres. The arms were incapable of this difficult labour; the woman exerted her whole strength, straightened her body, and pushed the stone on shore by means of her belly. She immediately felt acute pain in the left groin, but no crepitation. In spite of this accident she finished her work.

"On the following day she removed the stones with a wheelbarrow, and on the day after she walked a distance of eight kilometres. The pain, however, increased, and the woman was obliged to take to her bed, and to apply for admission into the hospital six days after the accident.

"The patient was seen by M. Letenneur, for the first time, on May 4th. She lay upon her back; no pelvic deformity was observed at first sight. There was pain during movements either active or passive.

The lower limbs seemed to have been rendered powerless. The coxo-femoral joints were intact. On examination of the pubis, M. Letenneur found on the left side of the body of the bone a projection, seated at a distance of some millimetres to the outside of the spine, and prolonged downwards. This projection was formed by the internal fragment of the fractured pubis; the internal fragment was somewhat depressed; pressure with the finger on this point caused very severe pain. Nothing analogous was found on the right side; but the patient complained of pain following the course of the tendon of the right psoas and iliacus muscles.

"Introduction of a finger into the vagina enabled M. Letenneur to make out a fracture with slight displacement of descending branch of the left pubis. The right side of the pubic arch was intact. After having placed the patient upon her right side, there could be felt and also heard from a distance a marked crepitation, the seat of which corresponded to the point where the deformity existed. This crepitation, which the patient could reproduce at will, could not be set up by moving the iliac bones. The vertebral column and the sacro-iliac symphysis were intact.

"On May 6th the pelvis was compressed by a broad cincture passed around the haunches; the patient was then enabled to raise her legs immediately, without pain. At the end of twenty days crepitation ceased, and the patient was allowed to get up. She quitted the hospital on the 2nd of July. She could walk with ease. Abduction of the left thigh was slightly impeded. Consolidation seems to be complete; but between the two fragments there existed a difference in the level of about half a centimetre."

M. Letenneur explains the mechanism of the fracture thus:—

The trunk was semi-flexed upon the thighs. The stone, resting upon the pubis, could not be elevated and placed upon the quay except by an upward and forward pushing movement of the pelvis. For this purpose it was necessary that the left lower limb should support the whole weight of the body, and that the head of the femur on this side should become the point around which the movements of elevation of the trunk and rotation of the pelvis were to be made. But it is probable that in this rapid and energetic movement, the left iliac bone, bridled by the iliacus muscle, had not yielded to the impulse given to the right side of the pelvis, and that the coxo-femoral articulation, rendered immovable for the purpose of maintaining the equilibrium of the body, had not permitted the double movement of extension and rotation of the trunk. Between this resistance on the left side, and the impulse given to the right side of the pelvis, the pubis was subjected to too great an effort, and broken. The effort having been arrested at the very moment of the fracture, the periosteum was not torn through. It is only under the influence of violent movements that displacement was produced, and that the pelvis was ultimately incapable of serving as a sufficient *point d'appui* to the lower limbs.

183.—*Treatment of Chordee.*

By Berkeley Hill, M.B., F.R.C.S.

(*Syphilis and Local Contagious Disorders.*)

Chordee, Mr. Hill writes, may be prevented by avoiding all sexual excitement, by keeping a moderate diet, and by lying on a hard mattress, lightly clothed. Stimulating medicines, or drastic purgatives, increase the tendency to erection. Camphor is sometimes useful in warding off or allaying the pain while the acute congestion lasts; opium is a more certain remedy, given in the form of Dover's powder, or as a suppository, one-third or half a grain of morphia in ten grains of cocoa-butter passed into the rectum on going to bed. Cold applied to the penis when erection has come on most speedily reduces it. Strychnia, 1-32nd to 1-24th part of a grain twice or thrice daily, often prevents nocturnal chordee.

Art. 184.—*Treatment of Acute Orchitis.**

By Furneaux Jordan, F.R.C.S.

(*British Medical Journal*, August 22.)

The author referred to the variety of orchitis sometimes called epididymitis, which was usually acute or subacute, and which followed or was consecutive to urethral lesion, especially gonorrhœa and gleet. The treatment consisted in the application of a strong solution of nitrate of silver to the scrotum of the affected side, followed by gentle pressure. The first occasion on which Mr. Jordan adopted the treatment was in the case of an in-patient of the Queen's Hospital, Birmingham, suffering from gonorrheal rheumatism of the knee. An acute synovitis of one knee was cured, as most cases are, in twenty-four hours, by nitrate of silver applied almost to vesication. Then acute orchitis set in, a strong solution of nitrate of silver was applied: and in twelve hours swelling, pain, and tenderness had disappeared. For several years he had uniformly adopted this treatment, and with unvarying success. It did not possess the heroism of a knife-plunge into the testicle or into the tunica vaginalis, but it was as quick and effective in its results as the bolder methods.

Art. 185.—*A Case of Fœtal Cyst communicating with the Urinary Passages of a Man.*†

By M. Broca.

(*Gazette Hebdomadaire*, No. 26, 1868.)

At the commencement of June, 1868, M. Broca was consulted by a man, aged sixty-one years, who since the year 1864 had had a mucous

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

† Communicated to the Société Impériale de Chirurgie, June 17, 1868.

discharge which was attributed to seminal loss. At the same time there had been frequent desire to urinate and painful micturition. In a short time he passed with the mucus gravel and some hairs. The man had been somewhat improved by passing a season at Contrexéville, but the affection still continued, and hairs and what the patient called gravel were still passed by the urethra. M. Broca examined some of the supposed gravel, and found that it consisted of very fine and more or less rounded shell-like bodies; one of which was of the size of four millimetres. On microscopic examination these bodies were found to be made up of cartilaginous elements infiltrated at certain points with calcareous matter. The hairs presented no peculiarity of structure. M. Broca concluded that the fragments of bone and the hairs had proceeded from a fœtal cyst communicating with the urinary passages.

Rayer, in a Memoir published in 1850, reported some cases of pilimicturition; in these cases fragments of the skeleton were not observed in the urine, but at the autopsy it was found that they were too large to pass away by the urethra. Having never met with cases of pilimicturition from fœtal cysts in the male, Rayer divided his facts into two classes.

The first class, called trichiasis of the urinary passages, was characterised by the expulsion through the urethra of hairs which had grown upon the mucous membrane of the urinary passages. The facts are very numerous, but most of them were not investigated by microscopical examination, so it is probable that elongated mucosities had sometimes been taken for hairs. In addition no report is given of an autopsy showing the hairs fixed upon the urinary mucous membrane; finally, it is necessary to allow for errors and for fraud. Leuwenhoeck had an opportunity of examining a hairy mass taken from the female bladder; but examination proved that this was made of wool and finely-cut straw. On another occasion a calculus taken from the bladder of a woman had a small nucleus formed of hair; this at first was thought to have been a case of trichiasis; but the small mass of hair was bound with a thread. It is necessary then to look with some doubt upon all the cases of trichiasis; but these are so numerous, and fraud of this kind is so difficult with the male, that Rayer believed in the existence of the affection. From the case reported by M. Broca, it will be seen that cases of true pilimicturition are susceptible of another explanation.

In the second class Rayer ranges the examples of pilimicturition, which, according to him, are observed only in the female. He bases his decision upon observations of five cases, in four of which autopsies were performed. In these four cases the fœtal cysts were in communication with the urinary passages and contained fatty matter, hairs, teeth, and fragments of jaw. The fifth observation, from M. Larry, is also conclusive: a tumour opened itself in the hypogastrium and discharged hairs; it was found to be a piliferous cyst in communication with the bladder. Later a calculus formed in the bladder, and was removed through the canal uniting the bladder and the cyst. As the subjects of these five cases were females, Rayer considered that the cysts were always para-ovarian; and as the affection commenced about

the ages of thirty, forty, or fifty years, he attributed these cysts to extra-uterine gestation and false pregnancies. This opinion has been accepted by many pathologists, but M. Broca does not agree with them, as he holds that fœtal cysts are not more frequent towards the age of thirty, than they are in youth; they have been found in girls before the age of puberty. Moreover, the above case proves that they may exist in males as well as in females.

Art. 186.—*On Blennorrhagic Inflammation of the Vas Deferens.*

By M. Gosselin.

(*Gazette des Hôpitaux*, No. 66, 1868.)

It is well known that in cases of blennorrhagic epididymitis the vas deferens from the tail of the epididymis to the superior orifice of the inguinal canal is often hard, swollen, and as large as a ramrod. Inflammation of a blennorrhagic origin limited to the vas deferens, that is to say independent of epididymitis and concomitant orchitis, is less known, because its occurrence is much less frequent. M. Gosselin has recently observed a very convincing example of this affection, and has made it the subject of one of his lectures delivered at the Hôpital de la Charité.

The patient, aged twenty-five years, had suffered for nearly five months from a blennorrhagia which had passed into the condition of gleet. No attention was paid to the latter affection, and on the 10th of May a swelling was felt on the left side of the scrotum. The man continued working for some days, but was obliged to apply for treatment on the 15th, in consequence of the increase of pain and swelling.

On examination, M. Gosselin found at the lower part of the scrotum on the left side, below the external inguinal ring and very nearly on a level with the head of the epididymis, a rounded and very hard tumour, which was painful when handled, and of the size of a large hazel-nut. From the lower part of this swelling to the tail of the epididymis passed a hard cord as large as a fair-sized quill, and from its upper end passed another cord larger than the preceding, uniformly hard, that is to say, without knots here and there, and which could be easily traced from the tumour as far as the external inguinal ring, and even beyond this to the superior opening of the canal. No appreciable swelling of the ejaculatory tubes and the end of the vas deferens could be made out on rectal examination. An examination repeated on the following days, enabled M. Gosselin to prove satisfactorily that the epididymis was entirely distinct from the swelling, and that the only part in which the disease was localized was the vas deferens. It was also made out that the rest of the spermatic cord maintained its normal consistency and the suppleness of its cellular tissue.

The hardness of the elongated vas deferens duct and its localized swelling impressed upon the affection physical characters analogous to those of tuberculization of this excretory canal. But besides the

absence of tubercular deposit in the prostate and testicle, the affection was too recent to justify any ideas of a lesion of this kind; moreover, the unquestionable existence of a gleet explained the possibility of an inflammation commencing at the urethra and arrested in the vas deferens.

The treatment consisted in rest, mercurial inunction, and two purgations. The tumour diminished rapidly, and when the patient left the hospital on the 1st of June, only a trace could be observed of the affection in a slight thickening near the head of the epididymis; all the other symptoms had disappeared, and the hard cord was replaced by the small cylinder forming the normal vas deferens.

Art. 187.—*Two Cases of Incontinence of Urine from earliest Childhood, cured by Mechanical Dilatation.*

Under the care of Dr. Braxton Hicks.

(*The Lancet*, July 4.)

A cause of incontinence of urine is indicated in the following cases which is not generally recognised. The treatment which Dr. Hicks applied was very successful, and we have no doubt that the record of it will be of great service to practitioners who have patients suffering from this very troublesome condition.

Case 1.—M. A——, about twenty-two years old, had suffered ever since she can remember from nocturnal incontinence of the urine, and almost incessant desire to micturate during the day. Had been under a great amount of treatment. She was admitted to Guy's Hospital under one of the surgeons, who examined for stone, but found none, nor any disease of the bladder, but a contracted one. Dr. Hicks offered to take charge of her. He began first by injecting solution of morphia, which lessened the irritability to a great extent, so much so that she was free for two or three nights from her distress. However, no further progress was made, but rather retrocession. Dr. Hicks then ordered the bladder to be distended as much as possible by plain warm water. This was done by his clerk, Dr. Chas. Smith, very carefully, daily. Almost directly she derived benefit, and in the course of a week she was quite well. The treatment was kept up for a week more, and she went out. After three months the nocturnal incontinence returned, and she was readmitted; but the bladder became rather more irritable. Morphia was again used, but not acting so well as before, an injection of nitrate of silver, twenty grains to the ounce of water, was employed. This caused some pain after, but in a week she improved, with occasional trouble at night. She could hold half a pint of urine at a time in the day, but not so much at night. However, by an occasional injection of morphia she gradually regained the power of retention, and went out again free from her complaint. It was curious that for two or three days of the latter part of her treatment she was troubled with complete retention of urine; this, possibly, was of a nervous character.

Dr. Hicks remarked that the constant evacuation of urine permitted by some mothers to their children allowed the bladder to become so constantly empty, that after a time the muscular power of the sphincter was not sufficient to counteract the contractility of the organ. In recent cases, no doubt this could be voluntarily overcome by adults; but in old-standing cases, although we might do much by lessening the sensibility of the bladder, yet we might proceed at once to overcome its resistance by mechanical force, so that further treatment would not be required. This was strongly shown in the following case, which recently was under his care in Guy's Hospital.

Case 2.—The history was precisely similar to that of the last. The bladder was at once injected with water; it shortly held half a pint. The incontinence was rapidly cured; and the patient went out to service.

Both these girls had been unfit for service from their complaint. Dr. Hicks suggested the applicability of this treatment to both sexes, in cases with similar history; at any rate it would be harmless unless violence were used. He thought it was possible that in some of the cases there were congenitally small bladders, and these possibly might be more difficult to manage.

There is much more difficulty in treating the contracted state of the bladder in chronic cystitis. A great deal can, however, be effected by injections of various kinds, as was shown in the following instance:—

C. C——, aged twenty-six, had cystitis after delivery, which caused her great pain, and intense desire to void urine every half hour. Various remedies were tried: styptics and sedatives to the interior of the bladder. Nitrate of silver injection (thirty grains to the ounce) was the most beneficial. The distress it caused was considerable; but she preferred it, as giving most subsequent relief. Morphia solution was always left in afterwards; and also at other times, to lessen the sensitiveness; occasionally mechanical distension was employed, but it was found nearly impossible to inject beyond three ounces at any time. After two months she could retain urine for nearly three hours, when Dr. Hicks thought it might be possible to distend the bladder to a greater extent under chloroform. This was tried; but three ounces was the greatest quantity admitted. There was a good deal of irritation after, and she was not so well as before. After a week she could hold her water only for an hour and a quarter. Afterwards she improved, and could manage to retain urine for an hour and a half, when she left the hospital.

Whether the resistance of the bladder was simply from the thickened walls, or from this and inflammatory adhesions also, did not appear clear in the case. The resistance was very firm. She had, however, gained something altogether by the treatment; but not so much as she would have done had no attempt been made to distend the bladder.

Art. 188.—*Four Cases tending to illustrate the Absorbing Power of the Bladder.*

Under the care of Dr. Guyon, of the Hôpital Necker.

(*The Lancet*, August 22.)

The following cases will be found of interest, as assisting to elucidate an obscure point of physiological therapeutics which has given rise to much difference of opinion. Not further back than in the *Lancet* for June 20, Sir Henry Thompson, in his lecture on Cystitis and Prostatitis, mentions that injections of anodynes into the bladder are of hardly any value, and that the quantity injected matters little, because the mucous membrane of the bladder appears to have no absorbing power; whilst in a preceding number of the same journal (Oct. 19th, 1867), Dr. Braxton Hicks, in a lecture on a similar subject, states that he has derived the best results from the employment of injections of morphia. The following clinical observations, and particularly the fourth, would appear to support the latter opinion. The details of the cases and the remarks which precede and accompany them are by Mr. Edward Alling, Dr. Guyon's talented house-surgeon.

There exists a wide difference of opinion between medical men with regard to the absorbing power of the mucous membrane of the bladder. In the number of the *Gazette des Hôpitaux de Paris* for March 7th, 1868, may be read a summary of the results of the more recent French researches upon this subject. These results are highly contradictory. Thus the Messrs. Ségalas, whose experiments were performed upon various animals, fully admit this absorbing power of the bladder. M. Demarquay, whose researches were confined to the morbid human bladder, considers this organ as barely capable of absorbing medicinal substances. MM. Kuss and Susini, on the other hand, absolutely refuse to admit this property. It may be well to say that these experiments were confined to the healthy bladder in man. The practical results derived from the observation of the four following cases, would tend to prove that if the absorbing power of the bladder is not great, it does really exist as well in the healthy as in the morbid condition of the organ. The effects of injections with chlorhydrate of morphia were carefully studied as to the light which they might reflect on this point. The injections were made by means of Pravaz's large syringe, and of a small elastic probe *à bout olivaire*, which enables the operator to keep a correct account of the quantity of fluid introduced. Each drop of the solution contained two milligrammes of chlorhydrate of morphia.

Case 1.—N——, aged forty-five, was admitted into the hospital on Feb. 16th. She had been suffering from cystitis for the last five months, and for six weeks has been unable to maintain the recumbent position for any length of time. She gets little sleep, and consequently has lost flesh, while her features bear the expression of pain. An injection of thirty drops of chlorhydrate of morphia (sixty milligrammes) into the bladder, which was first evacuated. No relief.

Feb. 17th.—Same quantity injected. Slight relief.

18th.—No injection was given in the morning, and the patient complained

she suffered more than previously in the afternoon. At five P.M., sixty milligrammes of the same solution were injected. This gave notable relief till near midnight. During the night she passed urine only ten times, whereas before being admitted into the hospital she used to discharge urine forty and fifty times in one night.

21st.—Half an hour after the administration of an injection of thirty drops (same solution) symptoms of narcotism manifested themselves—congestion of the face, drowsiness, incoherent talk. Her neighbours in the ward said that she looked like a "drunken woman." No vomiting. This condition lasted till three o'clock. The same evening thirty drops were again injected, but with no fresh symptom of narcotism.

22nd.—Thirty drops injected in the morning, but the evening injection was withheld. The next morning she complained of this, saying that she had had no sleep the whole night, and had suffered intense pain.

23rd.—Three injections of thirty drops each were administered, with considerable relief to the patient. From this time to the 30th of April the injections were continued, with the same favourable results as above mentioned; but the disease was then complicated by inflammation of the right kidney, and the treatment was suspended.

CASE 2.—M——, aged thirty-one, was admitted into the hospital on Feb. 19th. Has been suffering from cystitis for ten months. Thirty drops of the solution were first injected, and the next day there was much relief.

Feb. 22nd.—Injection of twenty-five drops twice in the day.

23rd (fourth day after admission).—The patient asserted that for six months he has never experienced the relief which he now feels after the injection of morphia.

25th.—Injections suspended.

26th.—The patient said he had suffered considerable pain during the night. The injections were resumed; and the introduction of thirty drops of the solution into the bladder gave immediate relief.

From Feb. 28th to March 4th twenty drops only were injected every morning, with no increase of pain.

March 4th.—The patient suffered somewhat more; but, instead of increasing the quantity of morphia, an injection was administered with sixteen drops of a solution of bromide of potassium. These injections were continued till March 8th without abating the pain, whilst they were followed by much burning.

All local treatment was suspended until March 26th, during which time the pains, though persistent, were more or less intense. At the end of this period, however, they increased considerably; when, on an injection of thirty drops of the solution being administered, the patient experienced notable relief. The injections were then continued till the 12th of April, at which time symptoms of inflammation of the left kidney became manifest.

CASE 3.—A——, aged thirty-five, was admitted into the wards on March 14th. Cystitis of one month's duration. Fifty drops of the solution were immediately injected; and on the very next day there was considerable abatement of the pain. Next, sixty drops were given on two separate occasions, with the same good effects.

On the 21st (seven days after the patient's admission) it was stated that he passed water only four or five times during the night; whilst before his admission he was obliged to discharge urine every five minutes.

24th.—Thirty drops only were administered for the whole day. The next day the patient said he had suffered much more than he did generally. It was decided that the same dose should be tried for a few days; but the pain became so intense that the full dose of thirty drops, twice a day, was recurred to, with immediate relief to the patient.

Case 4.—A——, aged seventeen, was admitted into the hospital on March 7th, with neuralgia of the left ovary. The disease had manifested itself at the age of fifteen, simultaneously with menstruation, and had persisted since then, increasing in intensity at every menstrual period. The patient on every such occasion was compelled to lie in bed. She presented no symptom of disease in connexion with the bladder. On the very day she was admitted subcutaneous injections with chlorhydrate of morphia were resorted to. The sensitiveness to the remedy was so great that though only half a centigramme was administered, it brought on vomiting. By degrees, however, it became possible to inject half a centigramme twice in one day. The pain abated considerably. On the 12th the menstrual discharge appeared, and was attended by much less suffering than usual.

On the 17th, M. Guyon bethought him of trying injections of morphia into the bladder. Twenty milligrammes were administered twice the same day. This was attended by no accident; and the relief which had been obtained by means of the subcutaneous injections persisted.

22nd.—As the solution of morphia, composed of two milligrammes to a drop, was wanting, Mr. Alling thought he would give a subcutaneous injection with half a centigramme of morphia, in order to afford some relief to the patient. The next morning she, of her own accord, stated that she had decidedly not derived the same result from the subcutaneous injection as from the preceding injection into the bladder. The vesical injections were therefore resumed. Twelve drops morning and evening were administered; and the patient declared that she felt great relief as soon as the first injection had been given.

From the 24th to the 31st of March there was no occurrence worthy of being noted; but on the 1st of April, after the administration of the usual injection in the morning, the patient felt symptoms of intoxication, which she spontaneously summed up thus: heaviness of the head; drowsiness; congestion of the face. This condition lasted for from five to six hours. It must be stated that on the eve she had taken forty-five drops of morphia; while her peculiar sensitiveness to the remedy above mentioned must be borne in mind.

April 2nd.—The injections were discontinued, and bromide of potassium was tried in their stead, but with no good result. The patient's sufferings increased immediately; and in order to continue the treatment it became necessary to employ, simultaneously, subcutaneous injections with morphia.

"I have not space enough," concludes Mr. Alling, "to discuss these details as I would like; but I shall endeavour to sum them up briefly. In the first place, the efficacy of injections into the bladder seems evident. We see in Case 1 that the pain speedily abated, that the desire to pass urine was diminished in a remarkable degree, and that sleep was restored to the patient. In Case 2 relief was most speedy, since on the fourth day the patient declared that he had never felt such comfort for the last six months. In Case 3 the patient soon experienced relief. Sleep was restored to him; for whereas he had been obliged previously to pass urine every five minutes, he was so much better that he discharged urine only four or five times a night. I have had occasion in other cases to state a like amendment of the same symptoms. But it is mostly with our fourth case that there would be need to insist upon the particulars. Here the bladder was healthy, and M. Susini's experiments seem conclusive in favour of non-absorption in such cases. How then are we to explain the persistent relief derived from the employment of

the injections, and the increase of pain as soon as these were stopped? With regard to the occasion when symptoms of intoxication were experienced, it may be objected that there was some slight breach of the mucous membrane. Obviously I cannot prove that this was not the case, though I am quite confident it was not. Before concluding, I must note the fact, that in this last case, each injection was followed by a sensation of burning, which was sometimes very intense, and lasted for from five to ten minutes. I know not, however, what part this symptom may play in the act of absorption, which seems evident to me in this case."

Art. 189.—*Observations on Rupture of the Urinary Bladder, with the History of a Case that ended in Recovery, in which the Peritoneal Sac was Washed out with Tepid Water injected through the Rent in the Organ.*

By Henley Thorp, M.D., F.R.C.S.I.; Medical Attendant Letterkenny Union Infirmary and County Fever Hospital.

(*Dublin Quarterly Journal of Medical Science*, November.)

Rupture of the urinary bladder is an accident so generally fatal that the history of an exceptional recovery is certain to be regarded with no ordinary interest. The following case recently occurred in Dr. Thorp's practice:—

"On the night of Friday, 28th February last, J. M'Auley, aged thirty, a respectable farmer, of sound constitution, sanguine temperament, and active habits, was thrown from his horse. Being intoxicated at the time of the accident, he could give no satisfactory account of the mode of its occurrence. The horse galloped home riderless; suspicions arose, a search was instituted, and shortly afterwards his owner, in a state of insensibility, was discovered on the roadside, about half a mile distant. In some twenty or thirty minutes consciousness returned. He then experienced a severe pain at the bottom of his belly, attended with an urgent desire to pass water, but no power of emptying the bladder. On visiting the patient four hours subsequently, I found him in a sitting posture, with his body bent forwards. He complained of an oppressive burning pain in the hypogastric region—there was a pressing inclination without the capacity to micturate—the abdominal muscles, more especially the recti, were rigid and tense, and any attempt to stand upright produced a great increase of suffering. He had neither vomiting nor rigor; nor did the surface of the belly present any contusion or other mark of injury. A full-sized gum elastic catheter entered the bladder without difficulty. At first no fluid escaped; but upon pushing the instrument onwards, and at the same time turning it a little on its axis, about a tablespoonful of bloody urine flowed out. No further quantity coming away, I withdrew the catheter a short distance, twisted it round in another direction, and again passed it backwards, when an additional ounce of a reddish fluid welled over,

without force or jet. By changing the position of the patient from side to side, turning him over upon his knees, and substituting a silver for the gum elastic instrument, I at length succeeded in obtaining nearly half a pint of urine, mixed with blood. The patient expressed himself as much relieved; and having placed him in a half-sitting posture, with his shoulders well raised, I administered a teaspoonful of laudanum in a glass of water, and again introduced the gum elastic catheter, pushing its extremity not further than the cervix vesicæ, and when a few drops of clear urine distilled over, it was fixed in this position. I left the patient, but returned in a few hours—having in the meanwhile provided myself with a half-pint elastic bottle and stop-cock—and found him still complaining of the burning pain in the belly, although not so severe as at my previous visit. He had not slept during my absence, but the distressing desire to pass water had passed off. The instrument had retained its position, and a drop of clear urine escaped at intervals from its extremity. Withdrawing the gum elastic, I now introduced a silver catheter into the bladder. The organ felt contracted, and did not easily admit of the complete introduction of the instrument, nor could the latter be depressed, pushed onwards, or moved about with the same ease as previously. Furthermore, the manipulations caused much pain; and, accordingly, the gum elastic catheter, now mounted upon a strong stilet, shaped like a sound, was again passed into the bladder; its movements, likewise, were at first restricted and painful, until after cautiously probing and turning its point, it entered nearly its full length, when a different feeling of resistance was communicated, and it could be moved about with somewhat greater freedom. The stilet being withdrawn, a tablespoonful of reddish urine flowed away. The stop-cock of the elastic bag was next adjusted to the catheter, and tepid water, to the amount of three bagfuls, injected through the instrument. Each portion, when introduced, was retained for a couple of minutes, and then allowed to return through the catheter, so that not more than eight ounces were injected at a time into the abdominal cavity. At first the water returned of a reddish tinge, but the last half pint was clear and bloodless. Each bagful regurgitated in a slow and interrupted manner, and pressure had no influence in accelerating or otherwise altering the mode of its discharge. During these proceedings, which occupied about twenty minutes, the patient was caused frequently to change his position, so as to mix the injected fluid as much as possible with whatever urine remained in the peritoneal sac. As soon as the abdomen was emptied as far as practicable, the patient was again placed upon his back, with the pelvis well depressed, and the catheter withdrawn partially—that is to say, until its extremity only projected into the bladder; and when the urine commenced to drop away, the instrument was securely fixed with a proper jugum. Ordered forty leeches to the lower part of the abdomen; when the leeches drop off, a warm bath for thirty minutes; afterwards, a bran poultice; one grain of opium and half a grain of calomel every second hour. Diet to consist of bread and milk, corn-flour pudding, arrow-root, rice, gruel, and barley-water.

"Sunday morning.—Patient is free from pain; countenance, good. He has no rigor; abdominal wall continues rigid and resisting; some

tenderness of the hypogastrium when firm pressure is made thereon, but no distension; pulse quiet and natural—86; urine escapes *guttatim* through the catheter. Ordered—twenty-four more leeches, to be applied to the belly; pills and bran poultice to be continued. At this visit I had the advantage of consulting with Dr. G. Elliott, who kindly accompanied me to see the patient.

"Was sent for hurriedly on Sunday night, or rather Monday morning, at four o'clock, A.M. The catheter had escaped from the patient's bladder during sleep. He awoke, suffering some pain, and had a slight rigor. Pulse 90. I re-introduced the instrument, and directed another dozen of leeches to be applied. Continue pills. These latter had not been taken for some hours, the patient being asleep.

"Monday afternoon.—Going on well; no pain. Pulse 86, and soft. Catheter retains its place, and is acting satisfactorily.

"Tuesday, ten o'clock, A.M.—The instrument again escaped from the patient's bladder during sleep. Nevertheless, after awakening, he passed, without difficulty or pain, a wineglassful of urine. No change in other respects. The catheter was again introduced and carefully adjusted. And as the patient, while sleeping, unconsciously tampered with it, precautions were taken to prevent him repeating the practice. Another dozen of leeches to be applied over the hypogastrium, where some tenderness continues, although the muscles are less tense and the abdomen softer. The pills are taken regularly and the bran poultice kept on constantly.

"Wednesday morning.—Patient slept well during the early part of last night, but awoke in the morning with a severe pain extending over the entire abdomen, which is tense, tender to pressure, and distended at its upper part. His countenance is greatly altered for the worse, and bespeaks much suffering; he had a shivering during the night. The pain, although constant, has exacerbations of greater intensity coming on at intervals, which the patient attributes to what he calls the "working of the intestines." Pulse 96, small. An emollient enema brought away a scanty hard motion. The evacuation was attended with much relief. Apply a mustard cataplasm over the whole abdomen, and smear it afterwards with half an ounce of mercurial ointment. Continue the bran poultice.

"Thursday.—Countenance still much depressed. Abdomen, although less painful, remains tense, and tender to pressure; pulse 90, unsteady, with an intermission; nausea and thirst are present. Patient's gums exhibit a diphtheritic appearance, and there is a slight mercurial fetor. Bowels moved at five o'clock, A.M.; motion natural. Hasnot taken the pills for six hours. To have effervescing draughts every third hour, and two grains of grey powder and one of opium every second hour.

"Friday, March 6th.—Patient is rather improved since yesterday; salivation fairly established; mouth sore; abdomen less swollen, but still tender to pressure, more especially in the iliac regions. Pulse 86. Apply again the mustard cataplasm; stop pills with mercury and chalk; one grain of opium every second hour. On this day Dr. Carre, of Ramolton, accompanied me to examine the case and see the patient.

"Monday, 9th.—Since last report the patient has progressed most

favourably. He has no pain, and the abdomen is soft and compressible. He takes, when awake, the grain of opium every second hour; nevertheless his bowels are moved once daily, and the dejections are natural. He omitted the bran poultice for a day, but some pain and uneasiness returning, he re-applied it with complete relief to these symptoms. The constant retention of the catheter having occasioned a purulent discharge from the urethra, the patient, possessing sufficient dexterity, was permitted to introduce the instrument for himself at short intervals. The farinaceous diet prescribed in the first instance has not been deviated from up to this date. To-day he is allowed chicken broth.

"March 12th.—Catheter to be dispensed with. The patient has now the power of retaining his urine for several hours without inconvenience, and of emptying his bladder without difficulty. At this date, also, the opium pills and all other medicines were discontinued. He was allowed animal food, and permitted to leave his bed and walk about.

"On the 15th the patient complained of severe pain in the calf of left leg, which was swollen and tender, without, however, redness or erythema; and on the 16th there was also tenderness in the groin, and along the course of the saphena vein. Rest for a few days in the horizontal posture, with stuping, relieved those symptoms, and on the 21st he was again able to be up and to take gentle exercise. By the end of the month he had no symptom of the injury remaining, save that he was obliged to rise sometimes twice in the night to make water. His appetite was good, and his strength, which had been greatly reduced, was fast returning. His convalescence is now complete. He enjoys excellent health. Has no vesical irritation whatever, and is able to retain his urine for the normal period."

Art. 190.—*On the Origin and Treatment of Stone in Boys.**

By Thomas Smith, F.R.C.S.

(*British Medical Journal*, August 8.)

In this paper, the author referred the existence of stone in the bladder, for the most part, to defective secretion from certain organs, whereby the kidneys were forced to excrete more than their due share of refuse material; or to disarrangements of the digestive organs, whereby abnormal substances might be formed and added to the urine, or the natural urinary excreta might be formed in excess. He endeavoured to explain the frequency of stone among the children of the poor, and its rarity among those of the rich, and the equal liability of both classes to the disease in adult life. The ordinary and the unusual symptoms of stone were noticed. A case was related where the author had crushed a stone between his finger and a lithotomy-staff, thus re-

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

lieving the child altogether of his disease. Attention was drawn to the great difference in the mortality of lithotomy, as drawn from general statistics, and as containing the experience of individual surgeons. As means whereby lithotomy might be facilitated and its mortality lessened, the author recommended that the bladder should be nearly empty at the time of operation; he described a method of manipulating the staff so as to diminish the size of the wound necessary for the extraction of the stone, and recommended the use of very long and slender forceps. The introduction of a cannula surrounded by a conical plug of lint immediately after the operation was strongly advocated, and cases were referred to in the author's experience where he believed life had been saved by this means. The paper had appended to it a table of twenty cases of lithotomy in boys.

Art. 191.—*Two Cases of Stone in Girls: with Remarks.*

By Thomas Smith, F.R.C.S., Surgeon to the Hospital for Sick Children; Assistant-Surgeon to St. Bartholomew's; &c.

(*British Medical Journal*, October 31.)

In selecting the method of cure for any particular case of stone in girls, undoubtedly the first and most weighty consideration, Mr. Smith says, is the safety of the patient, and next the preservation of the power of retaining urine. Thus, of the different means of cure—viz., lithotrity, the various modifications of lithotomy, simple dilatation of the urethra, and dilatation combined with incision—there is no plan so generally suited to womanhood as lithotrity, since by it the stone can be removed with inconsiderable danger to life, and without risk of permanent urinary incontinence. While in all cases the size of the stone must in a great measure determine the plan of operating, the choice of an operation in children is still further restricted by their local peculiarities—namely, the small size of the vagina, the presence of the hymen, the irritability of the urethra and bladder, and by the want of self-control shown by the patient. On these accounts, the operation of lithotrity is unsuited to girls. Vesico-vaginal lithotomy also cannot well be practised—that is, the extraction of a stone through an incision in the vesico-vaginal septum behind the neck of the bladder; for this would inevitably destroy the hymen; and the small size of the vagina would embarrass the operator in his attempts to close the wound by suture.

Simple dilatation, dilatation combined with incision, and lateral lithotomy (as performed by Dr. Buchanan), have each their advantages in particular cases, and are the only methods of cure suitable for children. Though in girls the dilatability of the urethra and neck of the bladder is proportionately greater than in women, it can never be worth while to risk a permanent incontinence by overstretching the sphincter vesicæ; and this is no imaginary danger, since cases are recorded, even in children, where incurable incontinence has resulted from overstretching the neck of the bladder. The incontinence resulting from paralysis of these muscular fibres is too apt to be permanent. On the other hand,

incontinence resulting from incision either of the vesico-vaginal septum or of the muscular fibres surrounding the neck of the bladder and urethra, if not recovered from spontaneously, is curable by surgical operation. Mr. Lane has suggested that in adults dilatation should not be employed when the stone is larger than an acorn; nor in a child when larger than a horse-bean. In children, the exact size of a stone, and the amount of stretching necessary or justifiable for its extraction, can be determined while the operation is in progress.

For children, dilatation is conveniently carried out during extraction by the blades of the forceps which hold the stone. If a well-shaped pair of forceps be used, very long in the blades, and slender, such an instrument forms an excellent dilator. It will be found that the exit of the stone can be much facilitated by a push from behind, with the point of the forefinger in the rectum. When also, during extraction, the stone has advanced some distance into the urethra, room may be gained, and the tension relaxed, by removing the forceps altogether, and pushing the stone from behind through the meatus urinarius with the forefinger from the rectum. By the same agency, also, the position of the stone in the blades of the forceps can be altered if desirable.

During extraction, if the stretching seem too great for the sphincter vesicæ to bear without risk to its integrity, the meatus and neck of the bladder can be divided to the required extent as they lie stretched over the stone. The tension being sufficiently relaxed, sutures of horsehair or fine wire can very easily be introduced through the divided edges while the stone is *in transitu* and the wound in full view. These may be fastened up when the stone has been extracted. It is almost impossible to introduce sutures after the stone has been extracted, and when the wound has fallen back in the recesses of the child's vagina.

Case 1. *Stone in a Girl aged seven.*—E. McM., aged seven, was admitted into the Children's Hospital, under Mr. Thomas Smith's care, on October 18th, 1865. She had suffered from symptoms of urinary irritation for twelve months; on admission she was pale, haggard, and fretful; she had severe pain on micturition, and almost complete incontinence of urine; there was no blood in the urine. A stone could easily be felt from the rectum, or on introducing a probe through the urinary meatus. The child had for some months previously been treated for disease of the spine, with no relief to the symptoms. On October 21st, the stone was grasped laterally by forceps, which were slid over its surface with some difficulty, as the walls of the bladder closely grasped the calculus, and were at one spot adherent to it. As traction was made upon the stone, it became evident that the external orifice of the vagina was too small to admit of its passage. The fourchette was therefore divided posteriorly towards the anus to some extent. This allowed the lower wall of the bladder to come into view. The vesico-vaginal septum was now divided longitudinally, beginning at the meatus urinarius, for about half an inch towards the os uteri. When it was evident that the stone could be extracted without further division of the soft parts, two silver sutures were passed; the one through the divided perineum, and the other through the wound made in the neck of the bladder. This was easily accomplished while the stone was *in transitu*, and while the edges of the two wounds were stretched tightly over the stone so as to be within easy

reach of the finger. The extraction of the stone was materially assisted by pressure made from behind on the back of the stone by means of the forefinger in the rectum. During the operation the tension of the soft parts was considerable. The stone was adherent to the bladder at its distal end, and came away as if broken off, and afterwards there was found on the fundus of the bladder a piece of calculous matter very difficult to separate; so soon as the stone had been removed, the sutures were brought together. No symptoms followed the operation, and in a day or two the child began to hold her urine for a few minutes; a week later she could hold it for half an hour. A fortnight after the operation she was up and about, and could retain the urine for an hour at a time. The sutures were at this time removed. The wound in the perineum was found to be soundly healed, while that in the bladder was still ununited. Three weeks after the operation she was discharged, being able to retain her urine for three hours at a time during the day. At night the urine escaped involuntarily. Three months afterwards, the child was again admitted, suffering from complete incontinence; the wound in the vesico-vaginal septum was just as when first made. The edges were pared, and two silver sutures introduced by means of a needle shaped like a corkscrew and having an eye near its point; a fortnight afterwards these sutures were withdrawn, and the wound was found closed to the extent that it had been brought together. A month later, the remainder of the wound was closed with three silver sutures, and in a fortnight afterwards the child was discharged, being able to hold her urine naturally by day, but occasionally wetting her bed by night. The stone was somewhat of an hour-glass shape, being pointed at the end which lay against the urethral orifice of the bladder and constricted about its middle; its posterior extremity was rough and broken, where it was adherent to the bladder; it weighed 215 grains, and measured an inch and three quarters by three quarters of an inch.

Case 2. *Stone in a Girl aged five.*—Mary Ann B., aged five, was admitted into the Children's Hospital, under Mr. Thomas Smith's care, on April 22nd, 1865. She had suffered from pain and difficulty in micturition for six months. When passing urine, she kept one finger pressed against the roof of the vagina. A calculus was easily struck by a probe through the urethra, and it could be felt from the rectum. On April 22nd the stone was extracted by means of forceps through the urethra; the fourchette of the vagina, and the neck of the bladder being divided to the necessary extent during the passage of the stone. The parts being very small, and the stone escaping rather suddenly at last, no attempt was made to close the wound in the bladder; indeed had such an attempt been made, it would have been unsuccessful when once the stone had escaped. The hymen was not injured by the operation. The child in the course of a week recovered complete control over her bladder, and was shortly discharged cured. The stone was composed of uric acid coated with triple phosphate, it was oval in shape, weighed 116 grains, and measured an inch and a quarter by seven-eighths of an inch.

Art. 192.—*The Medio-Lateral Operation of Lithotomy.*

By Henry Lee, F.R.C.S., Surgeon to St. George's Hospital.

(*The Lancet*, November 7.)

At a meeting of the Medical Society of London, held November 2nd, the author described the way in which he now performs lithotomy, and which he has named the Medio-lateral Operation. He gave the particulars of three cases in which this operation had been performed. The first of these had occurred upwards of twelve months ago. The medio-lateral operation, he said, was performed in the following manner:— The patient is placed in the ordinary position for lithotomy, and a grooved staff having been introduced, an incision is then made in the median line of the perineum from before backward. This incision should extend through the posterior half of the perineum, terminating two or three lines in front of the anus. From this point the incision is continued for a quarter of a circle round the front and left side of the rectum. The finger of the left hand may then be put into the wound, and the rectum pressed back, whilst an additional touch or two with the knife separates it still further from the parts in front. The forefinger of the left hand is now passed into the rectum, and the knife, with its back towards the bowel, is passed at the posterior part of the central incision, and in the median line, into the membranous portion of the urethra. With the finger as a guide this is done with great ease and certainty. A bistoury or knife, with a probe at its extremity, is then passed into the same opening, and made to slide along the staff into the bladder. The blade of the knife is then directed towards the patient's left side, and somewhat backward, and as it is withdrawn the heel of the knife passes in the direction of the original incision through the skin. The point of the knife remains very nearly in the median line. A free external incision is thus produced, involving no important parts, with a small opening into the bladder. The urethra being opened, the median line is reached with the greatest facility with the finger, and the incision into the bladder is in the same way very easily dilated. The forceps, or any other instruments that may be used, are also introduced more directly into the bladder than in the ordinary lateral operation. In this operation all the usual accidents and difficulties which are likely to occur in lithotomy are guarded against. With the finger in the rectum as a guide, the urethra may be opened without difficulty, and a probe-pointed bistoury, being guided by a grooved staff, cannot well fail to enter the bladder. The incision into the prostate gland is made from within outward, and this he (Mr. Lee) considered an advantage. An incision made in the opposite direction partakes more or less of the nature of a stab, and the point of the knife, even when guided by the most skilful hand, will sometimes wander from the groove in the staff.

The medio-lateral operation for lithotomy is performed in far less time than it requires to describe it, and Mr. Lee had been impressed in operating both upon the dead and living subject with the facility with which it is accomplished. The instruments used are an ordinary staff grooved in the median line, a common narrow scalpel cutting on one side

only, and a curved bistoury with a probe projecting two lines beyond the termination of its cutting edge.

In children a single incision with the scalpel is generally sufficient; but in adults the circular part of the wound should be deepened either before or after the urethra is opened. Should the stone prove large, there is no difficulty in obtaining more room at the neck of the bladder by making an incision in the prostate gland on the right side, as well as upon the left. This is easily accomplished by the probe-pointed bistoury introduced upon the finger, and guided by it.

The external incision in the medio-lateral operation combines, as it appears to Mr. Lee, the advantages of all the different incisions which have been recommended. It affords sufficient room for the use of instruments. These may be introduced in the median line, and the rectum is not likely to be displaced or injured. The operation as a whole is, he thinks, the simplest in conception, the easiest in execution, and the least liable to be attended or followed by any unfavourable complications, of all the operations for lithotomy.

Art. 193.—*The Results of the Operations for Lithotomy performed at the Manchester Royal Infirmary from* 1853 *to* 1868.*

By George Southam, F.R.C.S.

(*Medical Times and Gazette*, August 15, 1868.)

The paper gave the results of thirty-eight cases of lithotomy operated on by the author at the Manchester Royal Infirmary, all of which were successful except one, the subject of the fatal case being a man in his seventy-ninth year, with enlarged prostate; the calculus extracted weighed two ounces, was spiculated, and formed chiefly of oxalate of lime and lithic acid. The ages varied from one year and nine months to seventy-nine years, and the weight of the stones from nine grains to five ounces. The cases were not selected, except that no adult has submitted to the operation where the calculus was supposed to be under the average size, and the urinary organs in a favourable state for lithotrity, of which there were seven. Full details of thirty-two cases were given, eleven of which occurred in adults; in six of these the calculi varied in weight from one and a half to five ounces, and in five from five and a half to seven and a half drachms. Taking into consideration that the most favourable adult cases were reserved for lithotrity, the author considered a mortality of one in thirty-eight proved that lithotomy is not the dangerous operation it is commonly held to be. He did not, however, wish to disparage lithotrity, which he considered the preferable operation, where the bladder, prostate, and urethra were in a healthy condition, and the stone of average dimensions, and he generally adopted it in private practice; but where complications occur, and they are not of a nature to contra-indicate operative interference, he believed lithotomy afforded the best prospect of preserving the lives of our patients.

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

He pointed out some of the circumstances which he considered had contributed to the successful results in his cases. After alluding to the importance of preparatory treatment, several suggestions for facilitating the different stages of the operation were given. He advised free incisions through the skin, alveolar and adipose tissue, but those into the membranous and prostatic portion of the urethra should be very limited, the elasticity of the neck of the bladder in children and early manhood admitting of its free dilatation. To obviate the difficulty which sometimes occurs in reaching the urethra, he advised the direction of the knife to be altered according to the age of the patient. The pelvis of the child being smaller and placed more obliquely on the spine than in the adult, the bladder is almost an abdominal organ in early life, sinking into the pelvic cavity as this increases in capacity. Therefore, to find the urethra readily in children, the point of the knife should be directed obliquely upwards in a line with the inner border of the arch of the pubes; whilst in the adult it should be kept more horizontal. Additional facility in this stage of the operation is afforded by allowing the nail of the forefinger to grow longer than usual, which, passing more readily into the groove of the staff, becomes an excellent director for the point of the knife. Especial attention was paid to the prevention of the injurious effects of shock. Immediately the operations were completed, the patients were enveloped in a warm blanket, and on being placed in bed, bottles filled with hot water were applied to the feet and other parts of the body, until the sign of reaction set in. In the after treatment, the patients were allowed nutritious food as soon as the stomach was in a fit state to receive it. The paper was illustrated by drawings, and the calculi extracted were exhibited.

Art. 194.—*Treatment of Spasmodic Stricture of the Urethra.*

By William Savory, F.R.S., Surgeon to St. Bartholomew's Hospital.

(*St. Bartholomew's Hospital Reports*, vol. iv.)

Beyond the all-important means of rest and recumbency, and warmth in the form of baths or otherwise, there are remedies which have powerful action in directly subduing spasm,—chloroform for instance, which in cases of emergency will sometimes signally succeed, and enable us without difficulty to pass a catheter through an urethra which just before had proved impermeable. Opium—so often an invaluable remedy—is best administered as laudanum by the rectum: it may be given by the mouth, or morphia may be injected under the skin. Belladonna, or its alkaloid atropine, is sometimes useful, especially when locally applied; but, as a rule, Mr. Savory thinks they bear no comparison in efficacy to opium. Active aperients, too, are often strikingly serviceable. When spasm is associated with structural change or organic stricture, it may be controlled by the same means. When there is evidence of further mischief in the form of inflammation or congestion, local depletion or perhaps counter-irritation by other means than the application of cantharides may be advisable.

Art. 195.—*Calculus removed through the Urethra from the Bladder of a Child.*

By Dr. Fleming.

(*Dublin Quarterly Journal of Medical Science*, November.)

At a meeting of the Dublin Pathological Society Dr. Fleming exhibited a calculus which he had removed with a urethral forceps from the bladder of a little boy under two years of age. The boy was suddenly attacked with retention of urine, having suffered from painful and frequent micturition for a few days previous. When he was brought to hospital he was forcing and straining to pass water, the bladder was distended as an oblong tumour, reaching from the pubes to the umbilicus. The penis was in a state of partial erection, and the child was dragging and pulling it most violently.

Dr. Fleming at once suspected, from the peculiar character of the symptoms, that there was a calculus impacted in the neck of the bladder or in the urethra, and having ascertained its position when relieving the retention of the urine with a silver catheter, he quickly dilated the urethra, and in the interim provided himself with a special forceps for the purpose, and was fortunate enough to catch the calculus as he now presents it to the Society, secured within the blades of the forceps. He remarked upon the importance of the diagnosis of such class of cases, and upon the paramount value of the early detection of a calculus of a size removable by so simple and efficient an operative expedient. He had removed, in many instances, calculi from different portions of the urethra of children, but in none did he remember a case where a calculus caught *within the bladder* was so satisfactorily or with so much facility removed. Though by no means favourable to the operation of lithotrity in children, he had yet provided himself with a plain-bladed lithotrite of Charrière which he purposed using had he failed with the forceps in the case under observation. Dr. Fleming exhibited the catheter and the forceps he was in the habit of using in such cases, as he attached some importance to the peculiar forms.

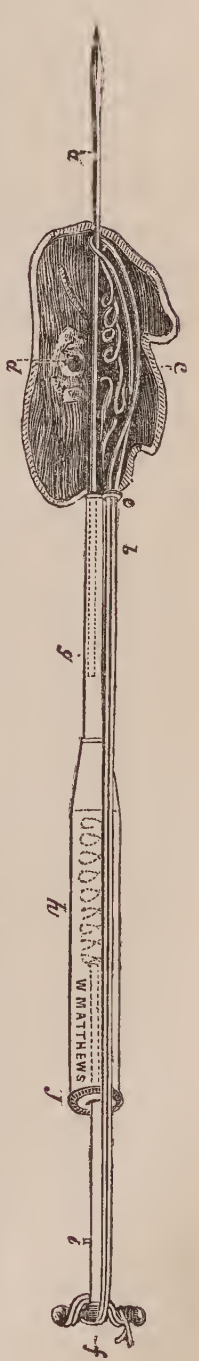
The calculus removed was small, was somewhat larger than a duck shot, was slightly roughened on its surface, and consisted wholly of lithic acid. It was obviously renal in its origin, and from the accompanying characteristic symptoms it tended to confirm the opinion inculcated by Dr. Fleming in his clinical records of injuries and diseases of the urinary organs, that many, very many of the abdominal sufferings so common in infantile and in child-life, are attributable to the unobserved escape of calculous concretion from the kidneys. Dr. Fleming stated that he has found in the kidney of the fœtus in utero, and in not a few instances in that of the infant and of the child, small gritty particles consisting of the oxalate of lime or of lithic acid crystal impacted in the tubercular structure. He directed special attention to the remarkable dilatability of the urethra at this early period of life, as being of much practical moment.

Art. 196.—*Treatment of Simple Varicocele of the Spermatic Cord.*

By John Wood, F.R.C.S., Surgeon to King's College Hospital.

(*The Lancet*, July 4.)

Mr. John Wood, of King's College Hospital, in his late cases of operation for simple varicocele of the spermatic cord, has employed a small compressing instrument, acting by means of a spiral spring upon the wire or ligature enclosing the veins, in such a way as to exercise a steady, constant, and unintermitting pressure upon them. By the continuous ulcerative action thus produced, all that subsequent twisting or tightening up of the ligature upon the sensitive, ulcerated, and inflamed structures, which often gives so much pain to the patient as to amount to a repetition of the operation several times over, is altogether avoided; and the parts are cut through with less loss of time and pain to the patient, and inconvenience to the surgeon.



The instrument is very portable, light, and simple, and is adapted for application to the pin and wire commonly used by Mr. Wood, and now well known to the profession. It can also be applied as readily to a flexible ligature of silk, hemp, or silkworm's gut, or to a wire passed subcutaneously round the veins in the ordinary way.

The compressor consists of a small cylinder (*h*) containing in its interior a strong spiral spring, acting so as to protrude a piston rod (*i*), surmounted by a transverse bar or handle (*f*), upon which the wire or ligature is twisted or tied. At the opposite end of the cylinder is a socket tube (*g*), about three-fourths of an inch long, giving to the whole instrument the appearance and size of a small patent pencil-case. This tube is adapted to receive the cut end of a common harelip pin, when that is used to pass under the veins. Projecting from one side of its extreme end is a small ring (*e*) for the transmission of the wire or ligature (*b*), after which the latter is passed along the side of the cylinder to the handle at the end of the piston-rod (*f*), where it is secured. Before this is done the piston is set, with the spiral spring compressed and ready for action, by means of a small projection at *i*, which passes through a corresponding opening in the cap of the cylinder (*j*), and is there secured by a half turn given to the handle (*f*). When the ends of the ligature or wire are firmly secured at *f*, the spiral spring is set free to act by turning the handle of the piston back to its original position, so that the catch

(*i*) is opposite to the opening at *j*. The spring can, if necessary, be changed to one more or less powerful by unscrewing the cap (*j*), and thus opening the cylinder in which the spiral works quite loose and unattached. For very large cases a stronger spring or a larger instrument should be used. The whole apparatus is gilded to prevent the roughness and liability to break which sulphurisation or oxidation produces on polished silver, iron, or steel surfaces when in contact with fluid discharges, and which sometimes renders a harelip pin so difficult to withdraw after its work is done.

The accompanying figure shows the instrument as applied to the arrangement of pin and wire employed by Mr. Wood. A section also is given of the scrotum and spermatic cord, with the relative positions of the varicose veins (*c*), and the vas deferens and spermatic artery (*d*), separated by the pin (*a*). The veins are enclosed and compressed between the pin and the wire loop, which is passed over the point of the pin at one end, and at the other through the ring of the compressor (*e*) as it emerges through the opposite puncture in the scrotum. Mr. Wood applies the apparatus in the following way. First, the skin over the cord is pinched up into a fold, and transfixed by a long slender needle, the eye of which carries a double wire of gilt copper. When the wire is drawn through, the loop is detached from the eye of the needle by a spring arrangement somewhat similar to that of the baiting needle used by fishermen. Then a sharp curve or bend is impressed upon the wire at the place where it passes through the tissues, and into this bend the clump of varicose veins is pressed by the finger and thumb of the operator, when separating them from the vas deferens. The punctures in the skin, through which the wire emerges, will then be placed opposite to each other, and behind the level of the varicose veins, and through them a straight hare-lip pin can be passed across between the varicocele and the vas deferens, emerging at the identical punctures through which the wire passes. The loop end of the wire is then placed over the point of the pin, and both ends of the latter are cut off with a pair of pliers. One—the point end—is cut close to the skin, and the other at a distance sufficient to enable the socket tube of the compressor to be fitted on to it. The two ends of the wire are then passed through the ring at the end of the instrument, and secured firmly and tightly at the handle, *f*, while the spring is set by the catch at *i*. The latter is then set loose, and the action of the spring is suffered to tell upon the wire ligature, keeping it constantly taut, and always acting to produce progressive ulceration through the veins. This is usually accomplished in ten days or so, in cases not of unusual size, during which time the compressor is worn in a dependent position. No dressing is usually required, and hardly any discharge ensues when a metallic ligature is employed. The puncture opposite to the instrument usually heals over in a day or two. When the veins are sufficiently obliterated and divided, the pin and wire can be removed, either together or separately, as the case may require, and this is done easily, and with little pain or trouble. In using wire, care must be taken to avoid making kinks, which are apt to break off or cause obstruction in withdrawal. When the apparatus becomes caked, and stuck together by dried blood or discharge, a little warm water, previously used to soften the union, facilitates the removal.

Art. 197.—*Tumour of Strumous Origin, involving the Left Testis—Castration—Recovery.*

By Henry Gray Croly, F.R.C.S.I., Surgeon to the City of Dublin Hospital.

(*Dublin Quarterly Journal of Medical Science*, November.)

The following case is placed on record by Mr. Croly :—

"M. C——, aged thirty-five years, a labourer, resident in the Queen's County, was recommended to me by my friend Dr. Joseph Clarke, of Mountmellick, and was admitted into the surgical ward of the City of Dublin Hospital, on the 13th of June last.

"*History.*—Three years ago the left testis became tender and swollen. It gradually increased in size to the present time. Within the last ten days a small spot ulcerated on the front of the tumour. The patient suffers pain like the 'sting of a nettle,' and he also experiences a dragging feel in the region of the spermatic cord and loins. He says he never suffered from venereal disease.

"*Condition of Patient and Appearance of Tumour on Admission into Hospital.*—His general health appears to be good. The left testis is about the size of a large orange. There are several large veins ramifying over its dependent part. The tumour is heavy. There is one ulcerated spot on the anterior part about the centre, and a prominent point which looks as if it would burst and form a similar ulcer. The spermatic chord feels thickened. There is no glandular enlargement observable. The right testis is of natural size. The patient was under surgical treatment for many months, but nothing seemed to take any effect on the size of the tumour. On consultation with my colleagues it was decided that the tumour should be removed, as the testis was completely destroyed by the disease, and, by causing irritation, prevented the patient from working. I accordingly operated in the following way on the 17th of June. The patient was placed on the operation table, and, when chloroformed, his buttocks were lifted to the end of the table (the hair was removed previously from the pubes and scrotum). I grasped the tumour behind, and made an elliptical incision through the integuments with a scalpel, commencing at the external abdominal ring, and terminating at the lower part of the scrotum. A second elliptical incision of the same length was then made, which included the ulcerated part, and prevented any diseased integument being left. The spermatic cord was carefully dissected out, and held firmly by an assistant in Ricord's forceps. The cord below the forceps was divided, and the vessels were tied separately; the lower part of the cord was then drawn forwards, and the testis dissected from the bottom of the scrotum, to which it was firmly united by adhesions. In separating the organ from the septum the handle of the knife was used, to avoid wounding the artery of the septum or the opposite testis. Several bleeding vessels in the scrotum were tied. The wound was left open to allow the surface to glaze, and the patient was carried to bed. Pieces of ice were placed in the cavity, and the

part was left exposed to the air. In a few hours, as all oozing ceased, I removed some small clots of blood, and sponged the entire surface of the wound with carbolic acid and oil. The edges of the wound were brought together with interrupted iron wire sutures.

"The section of the testis exhibited a well-marked example of strumous disease. A drawing was made by Mr. Burnside of the scrotum before operation, and a coloured drawing of the section of the tumour."

Art. 198.—*On the Mortality arising from Abdominal Hernia, with Suggestions for its Diminution.**

By John Birkett, F.R.C.S., Surgeon to Guy's Hospital.

(*British Medical Journal*, August 8.)

The author quoted the returns of the Registrar-General to show that the death-rate from hernia in the London districts averaged 149 per annum; and in England, 826. The causes of death were stated to arise from prostration, peritonitis, and injury of the bowels; and the fatal results could only be averted by reducing the protrusion as quickly as possible by the taxis, and when that failed by operation. He especially deprecated delay and violence in replacing the hernia, both these circumstances producing many deaths annually.

Art. 199.—*Strangulated Hernia of four days' standing relieved spontaneously.*

By J. F. Thompson, M.D.

(*American Journal of the Medical Sciences*, October.)

At a meeting of the Clinico-Pathological Society of Washington, Dr. J. F. Thompson reported the following case:—

"A man of fine physical development, about thirty years of age, was admitted to Providence Hospital, February 1st, with a large, congenital, scrotal hernia of the right side which had become strangulated. It had been down several times during his life, as large as on the present occasion, but he had always before succeeded in reducing it himself without difficulty. Three days previous to his admission, in jumping from a carriage he felt the intestine pass into the scrotum, but had been unable to return it. That night the ordinary symptoms of strangulation came on, and vomiting continued up to the time of his being sent to hospital. Efforts were made the next day after the accident by Drs. Wm. Dee and D. R. Hanger to reduce by taxis, but without success.

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

"First saw him, Feb. 2, at 10 o'clock, when he was in considerable distress, but not in as bad a condition as might be expected after a strangulation of so long standing. There had been no vomiting since early in the morning, but he had taken nothing to eat or drink.

"The tumour was large, hard, and almost perfectly round; bowels not moved since the accident; pulse excited but quite strong. Ether was administered and taxis tried faithfully for full half an hour without success. Efforts were made also by Drs. C. M. Ford and W. B. Drinkard with same result. The propriety of an operation was discussed, and it was decided to wait for more urgent symptoms. Ice was ordered locally, and one-third of a grain of morphia to be taken every three hours.—5 P.M.: Continued much the same as in morning, rather more comfortable, treatment continued, and enema ordered. The enema operated about 7 o'clock, and shortly after the bowel returned into the abdomen with a gurgling sound.

"Approaching the hospital the next morning about 11 o'clock I was somewhat surprised to meet the patient returning home with a brisk walk.

"The very unexpected termination of this case renders it one of great interest. The preponderance of written authority would hardly justify the postponement of the operation when strangulation had already existed three days, but there are able teachers who would have approved the delay under the circumstances.

"The reasons for not operating were, that the hernia was congenital; that at the time the neck of the tumour was quite large; and that the symptoms were not very distressing. If the constriction had been very great, his condition, after three days, would certainly have been more serious; the circulation, however, was not entirely interrupted."

ART. 200.—*On the Treatment of Blennorrhagic Orchitis by Strong Colloid Fluid.*

By Dr. BONNIERF.

(*Giornale della R. Academia di Medicina di Torino*, No. 6, 1868; and *Gazette Hebdomadaire*, No. 29, 1868.)

The utility of punctures in blennorrhagic epididymitis is a fact that has been practically demonstrated, and thanks to this treatment the surgeon may now reduce the pain and the duration of the affection. Compression, whether alone or combined with punctures, also diminishes the period of rest necessary for the cure of this complication of urethritis. Unfortunately, compression with strips of plaster cannot be applied without difficulty or be easily maintained; if the plaster be badly applied the compression becomes painful and insupportable. The employment of collodion promised at one time to furnish an efficacious compression and a powerful resolvent; but all who have tried this plan of treatment have found that it caused much pain, so that the advantage of abridging the duration of the epididymitis is neutralised by the severe suffering caused by the local application.

Dr. Bonnierf combines punctures and compression, and for the latter purpose uses a strong liquid glue. Some small superficial punctures are first made with a lancet, and then a suspensory bandage saturated with the liquid glue is applied over the scrotum. The glue rapidly dries, and in the course of a few minutes the testicle is compressed by a firm and rigid bandage, which may afterwards be readily softened and detached on the application of a poultice or of cold water compresses.

According to Dr. Bonnierf the duration of the affection, or at least of the necessary repose, varies from two to six days. If this fact be confirmed, this new mode of treatment will deserve general notice, and probably be susceptible of extended application. Thus, when after puncturing a hydrocele and injecting iodine, compression is employed for the purpose of bringing about resolution of the consecutive swelling, the plaster generally used might be replaced by the suspensory bandage and the strong glue; this bandage might also be strengthened by several sheets of paper agglutinated together.

Art. 201.—*On the Treatment of Phagedenic Chancre by the Internal Employment of Calomel.*

By Dr. Belhomme.

(*Bulletin Général de Thérapeutique*, June 30, 1868.)

Dr. Belhomme remarks that only two medicines employed internally have been considered efficacious in the treatment of phagedenic chancre, namely, opium and arsenious acid, and that although Ricord has sometimes succeeded by the mercurial treatment in curing the disease, yet the preparations of mercury have been regarded as injurious by most authors. The local applications recommended, however, are numerous, including the actual cautery, nitric, sulphuric, and hydrochloric acids, chloride of zinc, nitrate of mercury, &c. But although mercury has been supposed by most authors to promote the appearance and the spread of phagedena, and even, as it would appear, by Dr. Belhomme's admission, by himself in a former memoir, yet he now believes that calomel, employed internally, may be used with advantage in this affection. He was induced to try its effects by recollecting that one of his former instructors, Dr. Gibert, of the Hôpital St. Louis, occasionally administered calomel in non-syphilitic phagedena, and hence Dr. Belhomme used it also in syphilitic cases. But he has always given the mineral in small doses, repeated at regular intervals, the patient taking from five to seven centigrammes (a centigramme is the one-hundredth of a gramme, equivalent to about fifteen grains) every day in packets of one centigramme each, two in the morning, two in the afternoon, and two or three in the evening. Only four cases are related, and in them the treatment appears to have been successful; the duration of the cure is said to be from three weeks to a month in the simple cases, but much longer in the severe cases of ulceration.

Art. 202.—*Practical Remarks on the Treatment of some Diseases of the Genito-Urinary Organs.**

By W. F. Teevan, B.A., F.R.C.S., &c.

(*British Medical Journal*, August 29.

The author divided the subject into four parts. 1, spermatorrhœa; 2, stricture of the urethra; 3, irritable bladder; 4, stone in the bladder. On this occasion, however, he could only notice the first two subjects. —Mr. Teevan related the various opinions regarding spermatorrhœa, to the effect that whilst it was recognised as a complaint *per se* in France, its existence in this country was almost ignored. According to M. Mercier, spermatorrhœa was a very common complaint, and resulted generally from, and was a symptom of, indigestion. Mr. Teevan went fully into the causation and pathology of spermatorrhœa as related to him personally by M. Mercier, and he related two well-marked cases which had come under his notice, and in which the existence of true spermatorrhœa had been established by microscopical examination of the urine, showing that spermatozoa were passing, unconsciously to the patient, both in the day and night urine. The complaint was caused by one of the following usually. 1, indigestion; 2, local irritation of some sort; 3, masturbation; 4, excess *in coitu*. Spermatorrhœa often existed in cases of disease of the brain and spinal cord. The treatment of spermatorrhœa varied according to its cause. In indigestion, a cure would be effected by removing the dyspepsia and by local treatment—electricity and the use of mild injections of nitrate of silver—from five to ten grains to the ounce. If the involuntary loss of semen resulted from local irritation, that must be removed. If the spermatorrhœa was caused by excess *in coitu* or masturbation, the patient could be cured by large doses of the sesquichloride of iron—one to one and a half drachms three times a day, and by cold bathing. This latter remedy was, however, very powerful either for good or for evil, and ought not to be used unless there was well-established reaction. Horse exercise, carriage exercise, and walking, were all bad in cases of spermatorrhœa, as they caused determination of the blood to the genital organs. Gymnastics and rowing were the best kinds of exercise. Cauterisation was very rarely required in spermatorrhœa, and the best results followed the use of the bougie and mild injections of the nitrate of silver. Mr. Teevan then explained the causation and pathology of stricture of the urethra. No attention whatever had been paid in this country to the detection of stricture in its earliest stage. He showed how strictures might be recognised by the "bougie à boule" years before the generality of English surgeons could ascertain their existence. There are only two philosophical and surgical ways of treating stricture, either by gradual dilatation or by subcutaneous division. Most strictures of the urethra were best treated by the use of the "bougie Olivaire," which

* Abstract of a paper read at a meeting of the Harveian Society of London.

was first introduced into English hospital practice by Mr. Teevan some time ago. The instrument figured in the *Lancet*, in Sir Henry Thompson's lecture on stricture, as the "bougie à boule" was the "bougie Olivaire;" the former was for the detection of stricture, the latter for its treatment.

Art. 203.—*Improved Methods of Exposing Vesico-Vaginal Fistula.**

By Spencer Wells, F.R.C.S.

(*The Lancet*, August 22.)

The instruments used by Beaumont, Jobert, and others, before Marion Sims introduced his speculum, and Sims' instrument as altered by Simon, were shown and described. The apparatus of Ulrich of Vienna in its complete form, and the portions of it used by the author, were shown separately. The objections to fixing a speculum in any other way than upon the body of the patient were explained; and Dr. Emmett's self-retaining speculum was exhibited. As the fulcrum of this instrument was fixed upon one hip, the side or semi-prone position is necessary during the operation; and the instrument, even when enlarged, does not answer well in large or fat women. An instrument was then shown which has been altered from Emmett's for the author by Messrs. Weiss. As the fulcrum is fixed upon the back, any position of the patient may be selected for operation, and the speculum may be so fixed in the vagina that it is not displaced by any movement of the patient. The author has operated with this instrument, and found that it enabled him to dispense almost entirely with any aid from an assistant.

Art. 204.—*Case of large Fibrous Tumour of Uterus removed by Enucleation and Avulsion.*

By John Scott, M.D., F.R.C.S.I., F.R.S.E., Surgeon to the California State Woman's Hospital.

(*California Medical Gazette*, July, 1868.)

The following case is placed on record by Dr. Scott:—

Mrs. J——, aged 45; married twenty-four years; one son living, aged 23 years. *History*—Well up to five years ago, when a severe hemorrhage came on and lasted for a week. The following menstrual period another severe bleeding came on, which lasted much longer, and from that time to the present—a period of five years—she has had constant hemorrhage for three out of every four weeks. The quantity lost at times, particularly at

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* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

the catamenial periods, has been enormous, while at other times it has consisted of a constant passive drain, aggravated by the slightest exertion, producing such weakness and exhaustion that her death was looked on as imminent.

16th March, 1868.—*Present State:* Patient exceedingly anemic; pulse 120, weak, intermittent and compressible; cardiac bruit; sleeplessness, œdema, great debility. On examination, the uterus felt as large as a four and a half months' pregnancy; hard and lobulated to the touch, and lying over to left side; per vaginam, the organ was felt low down in the pelvis; the os thin and dilated to a little more than the size of a dollar, with a firm, smooth tumour projecting through it. Was able to pass the finger between the tumour and uterus for a considerable distance in front and to right side; but posteriorly and to the left side, it was found attached by connective tissue, which was easily broken up by the finger. The speculum revealed a glistening tumour protruding through the os, the distended uterus filling up the pelvis.

As the patient had but recently lost a very large quantity of blood, and it was feared that a recurrence of hemorrhage might prove fatal, I recommended her to submit to an operation for its removal, to which she at once consented. I at once divided the cervix with a scissors, and having controlled the slight bleeding with perchloride of iron on lint, I ordered an aperient preparatory to the operation. Drs. T. Bennett and W. H. Davies kindly assisted me, and the patient being fully under the influence of chloroform, I began the process of enucleation by breaking up with my finger, as high as I could reach, the connective tissue which bound the tumour to the uterus, and then used a uterine sound for the same purpose. I then fastened in the tumour a strong vulsellum, but, with the utmost traction I could employ, assisted by Dr. Bennet, I was unable to move the tumour in the slightest degree. As the os was insufficiently dilated to allow of the passage of the tumour, I enlarged the incisions on each side, and having got a blunt hook high up over the tumour, and with the vulsellum attached below, we did our utmost by traction to dislodge it, but without success. Every pull brought the uterus with it, till it at last seemed as if the organ would come out entirely. We then determined on endeavouring to divide the tumour *in* the uterus, and deliver it piecemeal. For this purpose, I managed to introduce an écraseur, carrying a steel wire, and, after some manipulation, got it well over the tumour and divided it. On extraction, we found that about one-third of the tumour had come away. At this stage of the proceedings, the patient appeared likely to succumb under the chloroform, but respiration was soon restored, and the operation proceeded with. I was now enabled to pass my hand higher up, and having enucleated as much as I could reach, I again got the écraseur in and cut through the greater portion of the remaining tumour, and having extracted it, I passed up my hand and detached the remainder. To ascertain that nothing was left, I again explored the interior, when I found a small fibroid at the highest portion of the cavity, and shelled it out with my finger and extracted it. The operation had lasted just one hour and ten minutes, and the patient had not lost more than six ounces of blood. The patient made an uninterrupted and rapid recovery, and since then has continued to gain health and strength, and has had no return of the bleeding; and the following menstrual discharge lasted between four and five days, and then disappeared. I requested an examination a month after the operation, and finding that the uterus remained harder and somewhat larger than natural, and that a whitish discharge then existed, I dilated the cavity with a sponge tent, and injected tincture of iodine, with the happiest effects.

The tumour weighed two pounds, was seven inches long, twelve inches in circumference, nodulated, and had a distinct fibro-cellular investment. It had evidently been an intramural growth, its nidus being high up in the left wall of the fundus, from which it had been extruded by uterine contractions.

Art. 205.—*On the Statistical Results of Ovariotomy.*

By M. Kœberlé.

(*Gazette Médicale*, No. 33, 1868.)

The following returns of operations performed from 1862 to 1868 were presented to the Académie des Sciences on July 27.

The gravity of ovariotomy bears a proportion to the complications presented by the operation. The bad results obtained in former times ought above all to be attributed, independently of the operative proceeding, to postponement of the operation until the affection was complicated and beyond the reach of operative treatment.

Statistics of ovariotomy operations in order to be satisfactory should give the following results :—

Cases without adhesions ought to furnish from 90 to 95 cures out of 100.

Cases with slight adhesions ought to furnish from 70 to 80 cures out of 100.

In severe complicated cases, with very vascular adhesions, the mortality varies very much. The surgeon may consider himself very fortunate if he obtains from 30 to 50 cures out of 100 cases, particularly if those cases which present small chances of cure be not systematically rejected; and if the practice of exploratory incisions and unfinished operations be not adopted under these circumstances, one ought to obtain at least from 40 to 60 cures out of 100 cases.

Table I. M. Kœberlé's experiences of ovariotomy have supplied the following results :—

		Cures.	Deaths.
Cases without adhesions	20	17	3
Cases with slight adhesions . . .	16	13	3
Cases with extensive adhesions . .	33	15	18
	69	45	24

None of these operations were incomplete. The tumour was extirpated in every instance, in spite of the most serious difficulties.

By making a comparative analysis of the second hundred operations performed by Mr. Spencer Wells, one finds the following results :—

		Cures.	Deaths.
Cases without adhesions	38	31	7
Cases with slight adhesions . . .	40	30	10
Cases with extensive adhesions . .	22	11	11
	100	72	28

More than 6 operations not accounted for in this table were incomplete.

Table II. The gravity of the operation was in proportion to the loss of blood. Out of 18 cases in which the loss of blood did not exceed 50 grammes, one only was fatal. With from 50 to 1000 grammes of blood the mortality was evidently the same. In 43 cases there were 16 deaths, or about 37 per cent. With from 1000 to 2000 grammes, there were 5 deaths in 6 cases. In the two cases where the loss of blood exceeded 2000 grammes, both patients died.

Table III. The mortality of ovariotomy was in exact proportion to the duration of the operation.

In 9 cases in which the operation did not last longer than half an hour, not one was unsuccessful. In 28 cases in which the operation lasted from one-half to one hour, one-fourth of the patients succumbed. When the operation lasted from an hour to an hour and a half, the mortality increased to one-third. When the operation was prolonged for two hours, the mortality was two-thirds. In 5 cases in which the operation lasted longer than two hours, all the patients succumbed.

Table IV. The causes of death were the following:—Septicæmia in 7 cases; peritonitis in 7 cases; peritonitis and septicæmia in 6 cases; internal strangulation in 1 case; enteritis in 1 case; intestinal tympanitis in 1 case.

Table V. Death occurred on the first day of the operation in 1 case (the twenty-second hour); in 5 cases on the second day: in 7 cases on the third day; in 4 cases on the fourth day; in 1 case on the sixth day; in 3 cases on the seventh day; in 2 cases on the eighth day; in 1 case one month after the operation.

Table VI. In 13 cases both ovaries were removed simultaneously, and in two of these cases the uterus was extirpated at the same time as the ovaries: there were 6 deaths and 7 cures.

Table VII. The age of the patients operated upon varied between seventeen and seventy-two years. The greatest proportion of cures occurred among females from thirty to thirty-five years of age. Above fifty years the mortality was very considerable—5 out of 6 cases.

Table VIII. Adhesions to the abdominal wall, and to the epiploon and intestine, were met with in a somewhat greater number of cures than of deaths. Pelvic adhesions, particularly seated in the region of the uterus, gave rise to a considerable mortality; it was the same with adhesions to the liver and mesentery.

Table IX. In cases where the patient had been punctured, the mortality was one-third; when puncturing had been performed once, the mortality was one-fourth; all the patients (six in number) who had been punctured twice, recovered; the remaining patients who had been punctured from three to eight times, succumbed in a large proportion; out of 3 cases in which iodine had been injected, 1 only recovered.

Table X. The mortality was in proportion to the length of the incision.

Table XI. The mortality was in proportion to the weight of the tumours. Out of 3 cases, in which the weights were between 1 and 5 kilogrammes, all recovered. Out of 51 cases, in which the tumours weighed from 5 to 20 kilogrammes, there were 35 recoveries, or two-

thirds; 2 cases only out of 10 recovered, in which the weights were between 20 and 50 kilogrammes.

Table XII. Vomiting from chloroform had no influence upon the mortality in cases without adhesions, but a very considerable influence after severe operations.

Table XIII. M. Kœberlé's operations from June 2, 1862, to June 1, 1868, are thus arranged:—

First year . . .	6 cases	. . .	1 death
Second year . .	4 „	. . .	2 „
Third year . . .	8 „	. . .	2 „
Fourth year . .	9 „	. . .	4 „
Fifth year . . .	19 „	. . .	9 „
Sixth year . . .	23 „	. . .	6 „
	69		24

The relative results with severe cases were much improved in the course of the year 1867-68. Out of 11 severe cases there were 6 cures; whilst in the two preceding years 2 cures only were obtained out of 12 severe cases. The superiority of the results in recent years is due to the improvements applied to the operative proceedings of ovariotomy, which improvements are now adopted by all surgeons, and in the introduction of which M. Kœberlé has taken a prominent part. The most important of these improvements consist particularly in applying to operative proceedings the knowledge we at present possess concerning the properties of living tissues.

Art. 206.—*A Successful Case of Cæsarean Section.*

By Drs. D'Aquin, Brickell, Borde, and Bayon.

(*New Orleans Journal of Medicine*, July, 1868; and *New York Medical Journal*, October.)

This case is of peculiar interest on account of the condition for which the radical interference by abdominal section was advised and undertaken.

The following is Professor Brickell's account of the patient when he first saw her in consultation with Dr. D'Aquin. She had then been in labour about ten days, Dr. D'Aquin having already been in attendance five days, and previously to this a midwife had been with the patient for five days, during all of which time the labour pains had been constant and severe:—

Her condition, when I saw her at 2 P.M., was as follows:—Face expressive of great anxiety; skin of dusky hue; lips distinctly approaching lividity; tongue red, with a broken white fur over the middle; respiration twenty-six; pulse one hundred and forty-three to the minute, of pretty good volume, but losing force; all uterine action ceased for fifteen hours past. Examining *per vaginam*, I found the vaginal secretion almost arrested and the temperature of the parts much elevated. The lips of the uterus were enormously swollen (probably three quarters of an inch in

thickness), quite severely rent in three places, and were jutting prominently into the summit of the vagina. They and the whole vaginal canal were excessively sensitive, so much so as to cause loud complaints from the patient, who was certainly very courageous. The neck of the womb was very long, and admitted of the tolerably easy passage of two fingers, but a third finger put the parts distinctly on the stretch, and, holding the three in a line, and advancing them steadily, I could distinctly feel the tissues of the neck breaking. Indeed, such was the friability of these parts, I am sure that I could, by firm pressure, have broken down the tissue of the lips with my finger and thumb. The idea distinctly conveyed to my mind was, that the parts were on the verge of sloughing. The collapsed head of a putrid child presented high above the unyielding neck, and a portion of the scalp was lying in the vagina. The odour emitted was extremely disagreeable.

In addition to all this, there existed a band across the posterior wall of the vagina, alluded to by Dr. D'Aquin, and which appeared to me as an extensive and strong cicatricial mass of semi-lunar shape, and very seriously narrowing the canal.

My conviction was soon clear that the delivery of the woman *per vias naturales* would be a most difficult and tedious operation, and I promptly recommended the Cæsarean section on the following grounds:—

1. No considerable part of the child could be drawn through the constricted cervix uteri, now so friable, without laceration, the extent or direction of which could not be controlled.

2. In consequence of the first proposition, the child would have to be taken away piecemeal; and the vaginal canal being dry, and of very limited capacity, the opening into the uterus very limited, and the child high up, this operation would be very tedious.

3. The excessively sensitive condition of the parts, and the necessarily tedious nature of the operation, would necessitate the use of chloroform, and the prolonged administration of any anæsthetic would seem to be contraindicated by the rapidity of the circulation and respiration, together with the existing degree of carbonization, the result of greatly prolonged labour.

4. The lips and neck of the uterus seemed already on the verge of sloughing, and prolonged manipulation would hasten such result, and would, in my opinion, endanger the woman very greatly.

These points were urged in consultation, but some great fears of Cæsarean section being expressed, I proposed to try and demonstrate whether anything could at all readily be accomplished by instrumental means. I first tried faithfully to apply a pair of delicately-made Hodge's obstetric forceps to the head, but it was a failure, there being no adequate room for the introduction and adaptation of the second blade. I then tried faithfully, during half an hour, to reduce the head piecemeal with Meigs's craniotomy forceps, but there was so little room in the vagina and cervix for both the hand and instrument, that the progress was lamentably slow. To my mind the proposition was clear that many hours would be required for piecemeal delivery, that an anæsthetic would be absolutely necessary, and that the result of prolonged manipulation would be fearful.

The consent of the patient and her friends being obtained, the operation of Cæsarean section was performed in the usual way. The points of interest in the operation were—

1. An almost entire absence of hæmorrhage from the abdominal incision.

2. No hæmorrhage consequent on stripping the placenta from the surface of the uterus.

3. The failure of the uterus to contract after its contents (the child had been dead some days) were removed; of course there was a free hæmorrhage from the incision through the uterine walls, and to control this bleeding, silver sutures were passed through the uterine walls—the ends being left about a quarter of an inch in length, and folded smoothly down on the uterine surface. Five months subsequently to the operation no inconvenience in any way had been manifested by the presence of the sutures in the abdomen. The mode of dressing the external or abdominal incision is worthy of note, for we believe that the accumulated weight of dressings often used is only a hindrance to the prompt healing of the wound:—

The surfaces of the abdominal wound were carefully sponged and brought together with fine interrupted sutures of strong silver wire—the same being plunged deeply through all the tissues, peritoneum included. Above and below and between the sutures, broad adhesive strips were placed, the same reaching across the abdomen; at right angles and across these four other strips were placed, one across the ends, and one on either side of the wound; and over this a light cotton bandage was placed to support the abdominal walls, and the result was adhesion by the first intention.

(c) CONCERNING THE UPPER EXTREMITY.

ART. 207.—*On Carbolic Acid in the Treatment of Boils, Whitlows, and Abscesses.*

By C. J. CLEBORNE, M.D., Surgeon U.S.N.

(*American Journal of the Medical Sciences*, October.)

As carbolic acid is exciting so much attention at the present time, Dr. Cleborne gives his experience with that article in the treatment of whitlows, boils, and abscesses. During the past year he has had an unusually large number of these cases on board ship, and being dissatisfied with the usual mode of treatment, he determined to try the effect of carbolic acid. This he did by making a free opening so soon as fluctuation could be detected, and when all of the pus had been discharged by gentle pressure, he either injected or swabbed out the cavity with the ordinary liquid carbolic acid of the shops, after which he applied a cold-water dressing. By this treatment further suppuration was prevented, and the wound healed so rapidly that the patient returned to duty in two or three days. In some cases, after evacuating the pus, and using the acid, he drew the edges of the wound together with isinglass plaster, and in twenty-four hours it entirely healed.

In the treatment of gonorrhœa, Dr. Cleborne has not been satisfied with the liquid carbolic acid. As an injection, he says it caused too much pain, and seemed to aggravate the symptoms when used even in the proportion of two to five drops to the ounce of water. These

objections, it is said, do not apply to the crystallized acid of Merck, or the chemically pure article of Calvert, which may be used for this purpose in the proportion of two to five grains to the ounce of oil of almonds, or diluted glycerine.

Art. 208.—*On Traumatic Luxation of the left Wrist backwards.*

By Dr. Guyon.

(*Gazette des Hôpitaux*, No. 66, 1868.)

On May 15, 1868, P—— Hippolyte, aged thirty years, a stone-mason, received an injury to the left hand, for which he was immediately brought to the hospital. The following is an account of the exact configuration of the injured region, which was examined before the appearance of any inflammatory swelling.

At first sight it seemed impossible to consider the injury as any other than a backward dislocation of the hand; on the dorsal aspect of the wrist could be seen distinctly a regular projection, resembling exactly the form of the carpus. This projection corresponded to the dorsal surface of the hand, and towards the forearm was in relief, and clearly defined, and the more distinctly as the skin formed two very marked transverse folds in the groove defining the inferior line of demarcation. This point was placed at a distance of four centimetres from the line of flexion on the anterior surface of the wrist. In front a groove was observed which seemed to be larger and much less regular; this was about five millimetres below the line of flexion of the wrist, from which it was separated by a thick fold of skin. To the touch this anterior projection seemed very irregular, and the osseous index the most in relief was so abrupt as to give rise to the question whether one had not to deal with the extremity of a broken fragment. But it could soon be easily recognised that the anterior margin of the lower extremity of the radius and the styloid apophyses had been carried forward; the position of the cubital apophyses showed that this bone was carried forward less sensibly; in addition it had not in any way been moved outwards.

By comparing them together it was found that the two projections were very dissimilar, and differed both in form and position. The dorsal projection reached towards the fore-arm, and was about four centimetres from the fold of flexion; the palmar projection, on the other hand, approached this fold to within five millimetres.

The tendons were stretched over both projections, but it was not noticed that the skin was elevated by the external tendons separated from the radius. As has been already remarked, the skin formed two transverse folds above the dorsal projection. The hand was not deviated from the axis of the forearm, the fingers were moderately flexed.

The patient suffered great pain, but, though much excited, was able to give a clear account of the accident which had happened to him.

Wishing to change the position of an enormous stone on which he had been working, he moved it gradually with his right hand, whilst with his left he prevented it from slipping too rapidly. He soon perceived that under the influence of the great weight which it sustained, that the left hand was becoming excessively bent. He attempted to remove it, but the elbow was arrested by another large stone placed behind him, and so the first stone continued to press with all its weight upon the palm of the left hand, whilst the elbow supplied a fixed point d'appui; at this moment he neither heard nor felt any cracking, but felt severe pain. He was soon freed by his fellow workmen and conducted to the hospital.

After a mould had been taken of the injured extremity, the man was put under the influence of chloroform, and a close and careful examination made of the displaced parts. It was then clear—1st. That the surgeon had clearly to deal with displaced articular surfaces. 2nd. That the lower extremity of the radius was not the seat of any solution of continuity. Upon this point particularly M. Guyon made as close an examination as possible. 3rd. That the apophyses of the radius and ulna were not fractured. 4th. That the inferior radio-ulnar articulation had undergone ligamentous laceration, as it was possible to make one osseous extremity move upon the other.

Reduction was accomplished readily and without any crepitation; the limb was placed between two moderately firm splints, which confined the hand and forearm. These, however, were soon removed, as there was considerable swelling in the evening, and on the following day numerous sero-sanguineous bullæ. All apparatus was abandoned, and the limb enclosed in poultices.

The swelling was reduced in the course of a few days, and it was then found that the displacement had not returned. Pressure upon the lower extremity of the radius and the styloid apophyses gave no pain; the joint at the dorsal aspect of the wrist was very tender, and at this part there was an appreciable projection of the carpus. By comparing the left limb with the mould taken before reduction of the dislocation, it was found that the arm, measured from the point of the olecranon to the end of the fingers, was longer by two centimetres. By comparing the left arm with the right, the styloid apophyses of both arms were found in the same position—that is to say, both radial apophyses descended beyond the apophyses of the ulnæ. Finally, the right and left radii were of the same length.

Dr. Guyon remarks with regard to this case, that with all the above-mentioned symptoms one has a right to insist upon luxation of the wrist with or without some small and insignificant fracture. This latter is in fact the sole point in the diagnosis which is very difficult, if not impossible, to resolve. The luxation in this case was not a simple one, as it was associated with diastasis of the inferior radio-ulnar articulation. But it is not the greater or less amount of simplicity of a luxation that is in question; it is the fact of the luxation itself, and the absence of any fracture of the lower end of the radius.

Art. 209.—*Simple Ganglion of the Wrist successfully treated by emptying the Cyst and applying Modified Pressure.*

Under the care of John D. Hill, F.R.C.S., Surgeon to the Royal Free Hospital.

(*Medical Times and Gazette*, October 24.)

In out-patient practice simple ganglion of the wrist is frequently seen as the result of injury, and, from the frequent reappearance of patients troubled with this complaint, Mr. Hill was led to perform a series of experiments in the various remedies suggested by surgical authors. Mr. Hill claims no originality for the principle of the method which he brings forward, but merely publishes a few facts with a view to show that the cyst may be emptied by a simple puncture, and modified pressure can be effectually and conveniently used in the treatment of these cases without danger to the tendon, and with but little inconvenience to the patient. The four following cases, without selection, are taken from his note-book :—

Case 1.—Mary J., aged forty-two, admitted as an out-patient May 12, 1865, with a ganglion connected with the extensor secundi internodii pollicis tendon of the right arm, which had troubled her more or less for three years. It came on after a sudden sprain in an altercation with her husband, during which he violently twisted her hand ; various remedies had been applied, including rupture, pressure, iodine, &c., but it was now worse than ever, and as large as a marble, and considerably affecting the movements of the tendon. A needle was first introduced into the bursal tumour and its contents squeezed out ; a piece of sheet lead was then cut two inches square, perforated by four holes on opposite sides, covered with wash leather, and beaten slightly concave ; four pieces of strong ligature silk were passed through the perforations on either side and fixed with a slip knot. This was now adjusted over the bursal sac by means of a crucial piece of strapping. A piece of gutta percha one-eighth of an inch thick, four inches long, and two wide, was next moulded to the flexor aspect of the arm, extending nearly as far as the bend of the wrist, having been previously perforated with four holes on opposite sides and covered with wash leather ; the silken cords were now passed through the perforations in the gutta percha and tied in a knot on the outside of the latter substance sufficiently tight to produce good pressure without discomfort. Occasionally these were removed and replaced, the patient having the whole time partial use of the hand, and at the end of six weeks (June 24) were removed altogether. I saw her six months afterwards, and there had been no return of the tumour, although she had been using her hands in domestic work.

Case 2.—Elizabeth F., aged twenty-six, was admitted an out-patient under Mr. Hill's care, July 14, 1865, with a large simple ganglion connected with the sheath of the extensor carpi radialis longior et brevior tendons of right hand. States that she has suffered seventeen months with weakness of the hand, which she attributes to the ganglion. It first came on after wringing clothes in washing. It is now as large as a filbert ; on two occasions it has been dispersed by sudden pressure, but it returned again in a few weeks. Mr. Hill adopted the same treatment, kept on the apparatus for five weeks, and with a successful result. Accidentally she came under his observation twelve months subsequently (August 1, 1866) with a fracture of the left

ulna. Mr. Hill found that she had had no return of the ganglion, and that the weakness of the hand had disappeared.

Case 3.—Mary S., aged twenty-three, admitted under Mr. Hill's care April 3, 1866, with a large ganglion connected with the common extensor tendon; it had troubled her for three years, and came on after a violent twist; various treatment had been applied by Mr. Hill with but temporary relief. The treatment carried out in the other cases was applied in this, and kept up for two months (June 2), when it was discontinued.

Seven months after Mr. Hill found that she had had no return, and that the wrist was quite strong.

Case 4.—Elizabeth B., aged twenty-seven, admitted under Mr. Hill's care October 4, 1866, with a ganglion as large as a marble connected with the common extensor tendon, which had caused her inconvenience for nine or ten months. Mr. Hill adopted the same course for six weeks.

Ten months afterwards there had been no return.

Art. 210.—*Excision of the Elbow.*

By Maurice H. Collis, F.R.C.S.I., Surgeon to the Meath Hospital.

(*British Medical Journal,* October 24.)

Mr. Collis lately operated in the following case:—

Mrs. M——, aged twenty, was attacked with acute synovitis after parturition. The inflammation ran on into the suppurative stage; and Mr. Collis, who then saw the patient, was anxious to lay the joint freely open, after the manner of Mr. Gay. In this he was overruled, and drainage was tried with temporary benefit. After a few weeks the tubes seemed to cause special irritation, and had to be withdrawn. The patient's strength began to fail; hectic set in, and, to save life, Mr. Collis operated on the 23rd of October. He made a single vertical incision at the back of the joint; and, keeping close to the bone, laid bare and removed the articular ends of the radius and ulna, and two successive slices of the humerus, the first showing some softness of the surface, with the gouge, forceps, and scissors; he further removed all diseased structures, whether osseous, periosteal, or synovial. There was much genuine pulpy thickening of the synovial membrane, with softening of the bone where contiguous to it. The cartilages were not much affected; they were eroded in one spot and another, but generally healthy and adherent. Mr. Collis pointed this out as an example of the mode in which disease, beginning in the synovial membrane, may extend to the bone. One or two superficial vessels were twisted, and the wound was wiped out with carbolic oil. The margins were brought together by means of wire sutures, passed rather deeper than usual, the surface being allowed to glaze for some hours before they were tightened. The limb was placed on a rectangular splint with pads covered with gutta-percha paper. It was not moved for a fortnight, the parts being daily sponged and cleaned with carbolic glycerine and water. In less than three weeks the patient was sitting up; the wound was nearly healed, and with every promise of a successful termination.

Art. 211.—*Amputation of the Right Arm at the Shoulder-joint, and Excision of the Scapula for Severe Injury of the Limb.*

By T. Vincent Jackson, M.R.C.S.

(*Medical Times and Gazette*, August 15.)

This case, which was communicated to the British Medical Association, at its late meeting at Oxford, by Mr. V. Jackson, was that of a man admitted into Wolverhampton General Hospital, December, 1864, having previously been knocked down on the railway by the buffer of an engine, the wheel of which passed over his arm. The injuries were so severe that the removal of the limb at the shoulder-joint, followed by excision of the scapula, offered the only chance of saving life. The author drew particular attention to the fact that the scapula had been excised by sawing through the acromion process, thus saving the point of the shoulder—the first time, in fact, that this had been done, all previous excisions of the entire bone having involved a portion of the clavicle.

Art. 212.—*On Caries Sicca of the Shoulder-Joint.*

By Professor R. Volkmann.

(*Berliner klinische Wochenschrift*, iv., 43; and *Schmidt's Jahrbücher*, No. 4, 1868.)

Professor Volkmann's communication consists in a report of the anatomical condition of three shoulder-joints removed by resection, and also of a fourth taken from a patient who had succumbed to typhoid fever. A clinical analysis is also made of five other cases which were observed in Professor Volkmann's clinique at Halle.

The name of caries sicca, which disease is not to be confounded with the arthrite sèche of French surgeons, is given to an inflammatory atrophy, generally somewhat acute, of the bones and especially of their articulations, which without any suppuration are corroded and penetrated at their surfaces in the forms of irregular perforated excavations, by a spare and very firm granulation tissue, which is relatively deficient in blood-vessels; very important defects are thus produced without any external swelling or formation of fistulæ, the integument remaining intact.

This disease differs from the ordinary cases of fungous articular inflammation, in the first place, by its presenting an almost sclerotic condition of the granulations, which are closely adherent to the roughened bases of the cartilaginous deficiencies. The synovial membrane, studded with moderate sized but very dry granulations, is closely united to the sides of the joint ends, and at the same time a membranous and vascular structure is formed between the articular surfaces, so that the cavity of the joint at an early period is obliterated either entirely or to a very

great extent. There is also progressive destruction of the epiphyses. Professor Volkmann found on microscopic examination of prepared specimens, that the granulations, or at least part of them, proceeded from a tissue metamorphosis and a calcification of the bone; he perceived in the bone tissue near the destroyed surfaces a thin curved line of calcification, and the basis substance, which had become filamentous, passing directly into the superjacent non-vascular layer of glassy granulations.—The medullary tissue, the periosteum, and the synovial membrane were in all cases much less affected than the tela ossea itself. With regard to the coarser appearances, the irregular contours of the patches of destruction observed in caries sicca, contrast very sharply with the more superficial defects which are usually to be found in chronic joint diseases proceeding from the synovial membrane. They remind the surgeon in many respects of the honeycomb condition of the osseous tissue found in tuberculosis of the bones and spina ventosa, although Volkmann has never discovered any reason for attributing caries sicca to tubercle, scrofula, or indeed to any constitutional affection. In addition to these defects, Volkmann observed in the cases investigated by him, that there were signs of a general concentric atrophy of the head of the humerus. The cervical portion, apparently normal or at least free from any external defect, was much contracted in diameter; the cortical substance, however, retained its normal thickness and consistency, but was somewhat sclerotic. This sclerosis Volkmann is inclined to consider as partly the result of a shrinking of the bone *in toto*, and of the consequent contraction of the meshes of the diploë. The articulating head of the bone itself, excluding its carious condition, presents exactly the signs of atrophy; it is flattened especially from before backwards, the two tubercles seem to be compressed, and their bone tissue is sclerosed. In one very marked case, a small irregular portion of cartilage in a healthy condition was still firmly seated upon the bone, and presented very distinctly in its deepest layers a broad calcification zone of growing bone. Infiltration of the periarticular tissues and osteophytic formations which occur with other similar inflammations, are almost entirely wanting in caries sicca. Since it is the rule that no proper suppuration is ever observed, and that spontaneous pain is most frequently absent and never severe, the general condition of the subjects of caries sicca remains often quite unchanged. Whenever suppuration occurs, it is generally owing to the presence of a sequestrum, and may be kept up by a small segment of bone retained and enclosed on all sides by impaired osseous tissue.

Volkmann reports that caries sicca generally occurs in individuals between fifteen and thirty-five years of age. Its most frequent seat is the shoulder-joint; the nature of the disease cannot be mistaken; after the patient has complained for some time of a painful sensation in the shoulder following much exertion of the arm, the movements of the joint become restricted, and at a later period entirely arrested. Passive movements, particularly an attempt to rotate the upper arm round its long axis, become very painful. Subsequently there is soon added emaciation of the tissues about the shoulder; the muscles extending from the thorax to the arm atrophy, and the osseous processes become distinctly prominent. The rudiment of the caput humeri is either pulled

close against the glenoid cavity, or is luxated inwards towards the coracoid process. The arm is then slightly abducted and seems to be shortened by three quarters of an inch to an inch. Volkmann would attribute to a destruction of the joint by caries sicca, the majority of cases of spontaneous luxations and subluxations of the shoulder, which are frequently explained by a supposed flaccidity of the capsule and a consequent falling of the head of the humerus.

When left to itself, caries sicca according to Volkmann's experience, gets well in the course of from one to two years, and results in anchylosis, often fibrous but generally very firm. Close bandages and iodine paint will not bring the morbid process to a standstill; in one case only did the strong tincture of iodine arrest but for a time the progressive destruction. Resection was performed in three cases, and resulted in success. Before the operation the head of the humerus had been dislocated towards the coracoid process, and a new joint had been formed, in spite of constant attempts having been made by suitable bandages to press the head of the bone outwards.

ART. 213.—*Treatment of Fractured Clavicle by a Cross-shaped Splint.*

By G. GREWCOCK, Nottingham.

(*British Medical Journal*, November 7.)

The plan of treating this accident which Mr. Grewcock brings under notice is not entirely new.

The manner in which the single cross-shaped splint is applied is extremely simple. The shoulders, having been well brought back, are fastened to the extremities of the splint by means of a bandage passing under the axilla and over the shoulder, thus effectually overcoming the resistance of the thoracic muscles. A small pad is placed in the axilla, and the bandage, passed over the arm and fastened behind to the splint, keeps the pad in its place.

Mr. Grewcock has treated several cases by this method, and found it give greater ease to the patient than the figure-of-8 bandage, and fulfil perfectly all the indications necessary for the successful treatment of the accident.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 214.—*On Varicose Disease of the Lower Extremities, and its Allied Disorders.—The Subject of the Lettsomian Lectures for* 1867.

By JOHN GAY, F.R.C.S., Surgeon to the Great Northern Hospital; Consulting-Surgeon to the Earlswood Idiot Asylum, &c.

With the object in view of expounding these diseases, Mr. Gay undertook to investigate anew the anatomy and physiology of the saphenous

system, believing this to be the only course to be pursued in order to that end. In the work before us, the anatomy of the venous system of the lower extremities is given and illustrated, but with plates—or, as Mr. Gay calls them, "diagrams"—having avowedly no pretension to artistic effect. These veins Mr. Gay divides into "three sets, viz., the *superaponeurotic*, or saphenous; the deep, or *subaponeurotic;* and the *intercommunicating*, or those which bring the two former into direct connexion with each other by perforating the intervening aponeurosis." With regard to the seeming want of uniformity in the distribution of the saphenous system, Mr. Gay makes the following propositions.

"1st. That there is, in the arrangement of the venous system of the lower limbs, as of other parts, so far as the trunk veins and their principal branches are concerned, a general and constant uniformity of plan or type; and that the deviations from it, in any given instances, are not so considerable as to constitute in any one an exception to it.

"2nd. That those *branches* which so far deviate from, as to be altogether irreconcilable with, such typical plan, are supplemental and auxiliary; and will have opened up, in all probability, from inconsiderable vessels in obedience to some especial exigency of the circulation; and,

"3rd. That the veins which become varicose are not generally of the subordinate character just alluded to, but ordinary and regular branches which have important offices to fulfil, and become diseased through being overtaxed by excess of functional requirements."

The anatomy of the external saphena, as given by Mr. Gay, differs from that ordinarily adopted. He says—"Arrived opposite the junction of the gastrocnemius muscle with its tendon, this vein invariably penetrates the fascia, either by gradually insinuating itself amongst its fibres, or by the provision of a distinct foramen; and from this point to its termination its course is unquestionably *sub*aponeurotic, and occasionally even *intra*-muscular. In an instance in which the vein took this course, it was small in its intra-muscular portion, but its size was compensated for by two large veins which passed from it, below the point of its penetrating the muscle, to the internal saphena in the thigh."

As to the valvular endowments of these vessels, Mr. Gay says—

"The external saphena has an indefinite number of valves—from three to nine as in this vessel. In this instance there was a valve below the orifice of each branch that was visible to the eye.

"This, as well as the internal saphena, but more frequently the former, is occasionally a double vein in some part of its course, with lateral intercommunication.

"The *branches* of the saphena, with exceptions to which I will refer, are destitute of valves. I make this statement after a careful examination of these vessels in a large number of bodies; for it is generally supposed that the contrary is the fact, so that varicosity is rarely brought under clinical notice without a reference to valvular implication, and especially to the so-called reliquiæ of degenerate valves."

But the slits in the aponeurosis, by which the perforating vessels pass to the deep veins, are so arranged as to answer the purpose of valves to these vessels; which, as Mr. Gay asserts, accounts for the fact that the

first traces of varicosity show themselves at the sites of these fascial apertures.

"The perforating veins, of which I have described the more important, in their course to the deep veins pass through dense structures,—fascia and muscle; which present formidable barriers to the return of the blood after it has once passed them in the direction of the current. The foramina in the deep fascia are mere *slits*, of which the edges slightly overlap each other; whilst the passage through muscles at their attachments is often very crooked or zigzag, from the interruption which their aponeurotic elements offer to a direct course. Thus these vessels, as they thread their way from the sub- to the super-aponeurotic system, are virtually valved, and, as a consequence, the first traces of varicosity show themselves as varices at the sites of their fascial outlets. Here, too, the dilatation of these veins usually ends."

From numerous experiments on the lower animals, a series of injections performed on dead bodies, and observations of the effects of muscular exercise on these veins in persons engaged on the treadmill, Mr. Gay concludes—

"1st. That the saphenous, in part *nutritive*, is in a still greater and more important respect an *appendage*—as a kind of reservoir, with slower moving currents—to the deep venous system, which belongs almost wholly to that department of the vascular system which may be termed *nutritive;* and thus, as Mr. Nunn observes, acts as a safeguard against the contingency of muscular congestion. *For in the venous system there are, potentially, no retrograde compensating currents as there are in the arterial.* Hence, *in all probability* dilatation of the *tegumentary venous radicles* indicates embarrassment of the deep trunk veins; whilst that of the *saphenous branches* points in like manner to obstruction of both superficial and deep trunk veins—of the first *directly*, of the second *indirectly*.

"2nd. That in reference more particularly to the saphenous system, the dilatation of its vessels cannot be effected actively and solely by any force evolved by the various agencies directly concerned in carrying on the circulation, nor to the alleged disadvantages of the columnar pressure of the blood; but—

"3rd. That the relation of the saphenous to the muscular system indicates the source of a force, as well as the means of intensifying it, so far in excess of that which the vein walls can oppose to it, as satisfactorily to account for its production.

"4th. That this result is attained in part,—

"(*a*) Through a contingent disadvantage arising from the fact that the capacity of the saphenous trunks is greatly less than that of the sum of their branches; and for the rest, as I shall hope to make more clear hereafter,—

"(*b*) Through the agency of certain foramina, of which *some—e. g.*, the saphenous, the femoral ring, and the triceps opening—regulate the size of the stream at the points where they preside over it, and, in case of overflow, intercept the surplus quantity of blood; whilst others—as the fascial and intra-muscular—act as valves or barriers, and oppose its reflux.

"5th. Blood so intercepted finds its way to, and accumulates in, the

saphenous system; where its tension expends itself with varying results. The valved and powerful trunks are able to resist an amount that would dilate their unvalved and feebler branches."

The general and special pathology of varicose disease, skin induration, and ulcer follows; from which Mr. Gay draws the following general inferences:—"That ulceration is not a direct consequence of varicosity, but of other conditions of the venous system with which varicosity is not unfrequently a complication, but without which neither one of the allied skin affections is met with,—conditions which involve obstruction of the trunk veins, deep and superficial, either from impediments on the venous side, or incompetency on the arterial, or from both causes combined;" that therefore, "pathologically, the doctrine of the 'varicose ulcer' does not appear to 'hold water;'—that, to reiterate my conclusions, ulceration, when it exists with varicosity but without other complication, is a coincidence and not a consequence of the vein disease; that, when associated with induration and bronzing of the skin, it is the direct result of serious obstruction of the venous trunks, and of this alone, whether associated with varicosity or not. The converse cannot, however, be alleged—viz., that serious embarrassment to the circulation through the trunk veins is invariably followed by these affections of the skin. The anomaly, which does not admit of explanation here, does not, however, invalidate the foregoing conclusions."

As to varicose disease, the results of Mr. Gay's observations lead him to the following conclusions—

"1st. That varicose disease of the lower limb includes a variety of morbid phenomena, from its simplest form, in which these are limited to varicosity of a saphenous branch with some change—generally dilatation in the allied portion of the trunk vein—to its more complex, in which they involve as well the veins of the deep or subaponeurotic region.

"2nd. That these phenomena indicate as their direct *cause* the expenditure, upon the saphenous as well as the deep venous system, of a powerful force, which differently affects their several orders of vessels, and issues in a compulsory *re*arrangement of their blood-courses, on an abnormal type.

"3rd. That the rearrangement or redistribution of these channels, at first temporary, may, and does often become permanent by corruption of their walls and appendages as well as by the formation of thrombi within them.

"4th. That *sthenic* varicosity is a special disease of certain unvalved branches of the saphenæ which bring into direct communication with each other;—either (*a*) distant portions of the same trunk; (*b*) the saphenous trunks themselves; or (*c*) these and the deep trunk veins.

"5th. That varicose disease originates in the branches of the saphenæ, from whence its course is to extend itself to the muscular system of veins.

"6th. That the saphenous trunks are prone to phlebitis; the deep veins to dilatation, with organic changes affecting principally their inner and middle coats; whilst those other and more severe morbid changes which constitute varicosity are limited to those especial communicating branches of the saphenæ which have just been alluded to. As the latter form of disease is irretrievable, its natural 'cure' is only effected by the

diseased vein becoming plugged or otherwise obliterated, as the circulation becomes restored to its normal condition so as no longer to require its aid.

"7th. That whilst the formation of clot within the varicose vein is often a salutary act, it is not so to be considered in the deep veins in cases of varicosity. The channels of veins, however, that become thus obstructed may, after a time, be efficiently restored by the organization of the clot.

"8th. The *asthenic* variety differs from the *sthenic*, inasmuch as, while in the latter the disease is usually confined to the main branches, in the former it invades the tributaries to the smallest ramifications. Fatty degeneration of the muscular coat forms, I have reason to believe, its distinctive pathological feature.

"9th. Obstruction, direct or indirect, to the flow of blood through the trunk veins, is the immediate cause of varicose disease."

The pathology of induration and discoloration of skin, so constantly met with in the lower extremities, is given, and finally that of ulcer. In relation to the "pathological genesis" of ulcer, Mr. Gay thinks they are clearly divisible into three species:—

"1. The *simple* ulcer; that in which the morbid processes are limited to the confines of the tissues directly engaged therein; 2, the *venous* ulcer; most frequently with 'bronzing' and induration of the skin; dependent upon obstructive disease of the trunk veins, superficial or deep; and, 3, the *arterial* ulcer, generally without bronzing, but with induration of the tegument, and due to incompetency of the arteries, through disease of their coats. In some cases, however, the morbid changes which characterize the second and third classes are conjoined.

"All of these ulcers are capable of being more or less varied by secondary agencies; and thus subordinate varieties are determined."

The treatment of these several diseases concludes the work. With respect to varicosity Mr. Gay says—"If, then, varicosity is not to be cured, or perhaps even indirectly relieved, by obliterating or otherwise obstructing the diseased vessels or their trunks, what are we to do? What principles of treatment are we to adopt? I answer, 1st, that so long as varicose veins are capable of aiding in circulating the blood, though with comparatively trifling efficiency, we must (*a*) relieve the general circulation of the limb as far as possible from those causes of embarrassment in which their disease originated; (*b*) preserve the vessels in that state of usefulness to which they may have been reduced, or render them still more useful by giving artificial support to their deteriorated walls; (*c*) remedy any contingent disorder of the vein as far as it can be remedied; and (*d*) adopt such general measures as shall have the effect of indirectly imparting strength to its tissues. And 2nd, (*a*) in the event of any portion of such vein becoming so hopelessly deteriorated that it can no longer aid in furthering the circulation, especially if it be irremediably painful on, or without exercising the limb; or (*b*) if the vein shall have given way, or appears, from attenuation or other conditions, liable to burst without forewarning;—under either of these circumstances the particular segment or entire branch must be obliterated."

In order to obliterate varicose veins, Mr. Gay recommends a mode of

operation which he conceives is free from the risk of forming a thrombus within the vessel. The more solid portions of the vein should be chosen for deligation; ligatures should be placed beneath it at distances of from three-fourths to an inch apart; the blood is then to be poured out of the vessel by elevating the foot, and, if necessary, by placing a bandage on the distal side of the vessel; and the ligatures are then to be tightly tied.

The treatment of ulcers as recommended by Mr. Gay, is as follows—

"If acutely inflamed, bleeding is required by leeches or scarification across the edge of the ulcer, hot applications, constitutional treatment, purgatives, calomel when the biliary system is deranged, and opiates if the sore is painful. If the inflammation is only subacute, and especially if the tissues be thickened and the edge welted, blisters should be applied over the surface and the affected border. It may safely be alleged that no one remedy is capable of so much general benefit as the blister, for which we are, I believe, indebted to M. Sappey, but mainly to Mr. Syme. Irritability must be subdued by opium, with quinine or iron, and the use of a *strong* solution of nitrate of silver to the surface. If neuralgia exist, the offending nerve-filament must be tracked out and divided, as Mr. Hilton recommends, and appropriate constitutional remedies administered. If there be constitutional weakness, tonics and change of air, with generous diet, are required; and if struma or syphilis, the remedies appropriate to these diseases. If the ulcer persists after the subjugation of secondary states or conditions and a certain period of rest, the *surface* should be destroyed by some powerfully destructive agent. The strong solution of the pernitrate of mercury, twice or thrice applied, and at intervals of two or three days, will seldom fail to induce cicatrization in such a sore.

"With respect to the *venous* ulcer, I know but of one mode of inducing permanent cicatrization—namely, by those incisions at the edges to which I first drew the attention of the profession through the medium of this Society, in 1861.

"The *principle* of treatment involves the destruction of any veins which pass from the margin of the diseased skin tissue, and especially from the ulcer itself; and relief to the tension of the contracted and hardened skin. These two objects are to be carried out at the same time; 1st, by deligation of the larger varicose veins; and 2nd, by curved incisions, free and deep, on either side of the ulcer margin.

"The edges of the wound should be kept apart, and the limb maintained most scrupulously, and without intermission, in the posture described when speaking of obliteration of veins.

"The *arterial* ulcer is incurable by any known means of which I am cognizant; and amputation is a resort full of risk, as the ulcer is so commonly associated with remote organic, especially renal, disease. Would ligature or compression of the femoral artery, with the object of closing up the diseased arterial trunks, and of obtaining a renovated arterial system by means of those abundant new branches and their ample anastomosis, which was so striking a feature in the injected case of which I have spoken, be likely to meet the otherwise insuperable difficulty?"

We have thus given an outline of the matters treated of in Mr. Gay's

"Lettsomian Lectures:" but must refer our readers to the work itself for the details out of which Mr. Gay has gathered his practical conclusions upon the important subjects of which they treat.

Art. 215.—*On the Treatment of Ulcers of the Lower Limbs.*

By John Kent Spender, M.B. Lond.

(*Manual on Ulcers, &c.*)

In his "Manual on Ulcers," Dr. Spender proposes to treat ulceration of the leg by imitating the natural process of healing by scabbing. An ointment containing a very large quantity of prepared chalk, he writes, forms the best artificial crust. The earthy matter must be in a much greater proportion than enters into any ointment in the "Pharmacopœia," consisting of about three pounds of chalk to two pounds of lard. The best way of preparing this application is not by rubbing the chalk down with the lard; but, having previously reduced the chalk to a very fine powder, melt the lard in any convenient vessel over a slow fire, and then add gradually the chalk to the liquefied lard. This should be stirred and thoroughly mixed until nearly cold, and it is then ready for use. A much more homogeneous compound is thus obtained than could possibly be procured by simple admixture or trituration, the materials are more intimately blended together.

The following advantages are said to accrue from the use of this ointment.

(*a*) It very rarely produces pain, and generally much ease and comfort. The great predominance of alkali prevents the lard from becoming rancid, and so producing irritation.

(*b*) When the lard becomes melted by the heat of the part, and absorbed by the bandage, the chalk is disengaged, and a portion of it combines with the secretion from the ulcer. This secretion is often extremely acrid, and excoriates the neighbouring skin; but when united with the chalk it is coverted into a neutral innoxious compound.

(*c*) This compound constitutes the incrustation which is formed, first on the surrounding skin, then on the margins, and finally on the surface of the ulcer. This incrustation is necessarily produced in a very gradual manner. It is only when the secretion has considerably diminished in quantity that a layer is deposited on the centre of the ulcer; but the covering which is provided on the edges protects them completely from irritation.

(*d*) Little disturbance of the applications is necessary. At first the quantity of discharge may require the frequent removal of the dressings; but in a little while this will be wholly unneeded, and our object should be to maintain the mechanical integrity of the chalky incrustation. All fomentation of the ulcer is obviously highly prejudicial. . . .

The next object to be kept in view is to support the veins and other structures below the ulcer, and to introduce a healthy action, which may be done by a *powerful and well-adjusted compression of the whole limb.*

This, when properly applied, the author says, approximates the structures to their natural form and function, and thus introduces the healthy action required.

ART. 216.—*Respecting the Treatment of Fractures of the Lower Extremities in the Wards under the care of Mr. Paget.*

By J. ASTLEY BLOXAM.

(*St. Bartholomew's Hospital Reports*, vol. iii., and *British and Foreign Medico-Chirurgical Review*, October.)

Before describing the new forms of apparatus employed at St. Bartholomew's in the treatment of fractures of the lower extremities, Mr. Bloxam alludes to the circumstance that no apparatus is now employed in fractures of the femur in children and in fractures of the patella. It is found that splints, bandages, and other such applications, are attended with great inconvenience in young children, and that the fractures may be safely treated by rest and the maintenance of a suitable position of the limb. Fractures of the patella are also treated without any apparatus, the patient being confined to bed with the injured limb extended on a level, with sandbags placed on each side, and with a cradle to keep off the weight of the bed-clothes from the limb. In a few days from the time of the accident, the extensors cease to act, and the fragments approximate themselves, the union, however, being usually ligamentous. The description of the apparatus employed in the treatment of other fractures of the lower extremities is illustrated by diagrams, without the aid of which a description would be impossible. It should be mentioned, however, that in fractures of the thigh, the inconveniences of the long splint are obviated by some novel contrivances, and that the new apparatus employed in these cases is both useful and convenient.

ART. 217.—*Pelikan's Modification of Pirogoff's Tibio-tarsal Operation.*

(*Gazette Médicale*, August 29 ; and *British and Foreign Med.-Chir. Review*, October.)

Professor Heyfelder states that he has had ample opportunity of confirming the good opinion he had formed of this operation in his own cases in Finland and St. Petersburg, by the experience derived from the Prusso-Austrian war of 1866. The procedure consists in making a curved incision, which, commencing above the posterior edge of the internal and external malleolus, passes along the dorsal surface of the foot and terminates at the other malleolus. After this incision, which divides only the skin, and the preliminary separation of the incised parts, the subjacent tissues are completely cut through down to the bone, and the epiphyses of the two bones of the leg are removed by the saw. The

soft parts covering the os calcis are next divided, and the bone sawn in the same direction. The sawn surfaces of the bones of the leg and of the os calcis are easily brought in contact, which is impossible by the unmodified procedure, even after section of the tendo Achillis.

Art. 218.—*A Case of Popliteal Aneurism successfully Treated by Flexion.*

By T. Holmes, M.A., Surgeon to St. George's Hospital.

(*British Medical Journal*, June 13.)

Mr. Holmes communicates the following case as an example of popliteal aneurism, apparently cured without the slightest danger to the patient and without any suffering whatever.

S. D., aged forty-five, a labourer, was admitted into St. George's Hospital, on April 27th, 1868, on account of aneurism in the left ham. The history given was that six weeks previously, when lifting a heavy weight, he slipped, and his heel went into a hole in the ground. In recovering himself he gave the limb a severe twist; but he did not feel any pain till about a fortnight before admission, when he became sensible of constant pricking pain in the ham.

On admission, a small aneurism was found. The *bruit* was very distinct. There seemed no solid in the sac, for the tumour almost entirely disappeared after compression of the femoral artery. The pulsation was not very violent. The man seemed in good health and spirits. He was left quiet in bed for two days; the bowels were cleared out; and he was allowed ordinary diet. On April 30th, at 3 P.M., the flexion treatment was commenced, on the plan first suggested by Mr. Ernest Hart. The pulsation was decidedly weaker than on admission; it was greatly checked by forced extension of the limb, and was completely stopped, as far as could be ascertained, by extreme flexion. The leg was bent on the thigh as far as possible, and fixed in that position by bandages, a leather collar being put round the thigh, and another round the leg, and the two attached by a few turns of the bandage. The thigh was bent, and the limb laid on a cushion. The patient slept tolerably that night, but complained of a good deal of shooting pain. However there was no intolerable inconvenience from the position. The bandages were readjusted, and the pulsation found to have diminished considerably. Next day, May 2nd, the *bruit* was not perceptible nor the pulsation, and the aneurism was, in fact, cured; but the flexion, as it really gave the patient no inconvenience, was continued for another day, when it was finally removed (2 P.M., May 3rd). The patient was kept in the house under observation for ten days more, during which time the tumour, now perfectly consolidated, continued to diminish in size. When he was discharged (May 13th), there was a little lump in the ham, much resembling a chestnut in size and feeling.

Art. 219.—*Popliteal Aneurism: Cure by Pressure in Twenty-Eight Hours.*

Under the care of Sir Henry Thompson.

(*British Medical Journal*, July 4.)

The patient, J. D., aged fifty-nine, a labourer, was admitted into University College Hospital on April 16th, with an oval tumour, about the size of a small orange, in the popliteal space, painless, smooth, non-adherent to the skin, and distinctly circumscribed. As the tumour was small, it was thought expedient first to adopt the treatment by flexion. Accordingly, on the following day the limb was bandaged, gently flexed upon the thigh, and retained in that position by additional bandages. The flexion caused no pain. The limb was kept in this position four days, until two P.M. on the 21st, by which time no difference in the pulsation was perceptible. Mr. Ernest Hart saw the case, and flexed it more completely. The limb, however, was set free on the 23rd, as the knee had become swollen and painful. On the following morning at eleven o'clock, the leg having been previously bandaged with stocking elastic, a Carte's compressor was applied over the femoral artery just opposite Poupart's ligament, and another one about four or five inches lower down. The patient himself, a very intelligent man, changed the compressor about every three-quarters of an hour, and felt little discomfort from its application. *By half-past three on the following day, twenty-eight hours after the first application of the compressor, all pulsation in the tumour had ceased.*

The patient from this time had no bad symptoms; he slept and took his food well. The compressors, which had been kept on at half-pressure since the pulsation ceased, were loosened altogether on the 28th, although not taken off the limb; and the bandages partly undone. He was able gradually to straighten his leg. The tumour gradually diminished, and left merely a small hard tumour. He got up for the first time on May 9th, but was unable to put his foot to the ground; and slight œdema resulted on the following day, which, however, gradually diminished. He was speedily able to walk, at first with the assistance of crutches; and left the hospital on the 8th, perfectly well.

Art. 220.—*Aneurism of the Popliteal Artery Cured by Compression.*

By W. G. Johnson.

(*British Medical Journal*, July 4.)

Samuel R., a healthy-looking man, aged twenty-seven, employed in the marine service, was compelled to leave it two years ago, on account of an aneurism of the right popliteal artery. He was sent to Haslar Hospital, where continued pressure by the finger was kept up for five

weeks; but as this pressure seems to have been performed by the nurses, it would appear doubtful whether it had a fair trial. It did not, however, succeed; and a tourniquet was then applied, which became unbearable at the end of twenty-four hours, and had to be discontinued. The femoral artery was then tied in the middle of the thigh, and he left the hospital cured. His employment at gun-drill necessitated a constant bending of the knee. His next employment was in draining and digging, which likewise compelled the legs to be bent.

He was admitted into the Bedford General Infirmary on July 27th last, with a popliteal aneurism of the left side. The tumour was about the size of a small hen's egg. Two tourniquets were applied to the thigh—one immediately below Poupart's ligament; the other at the middle of the thigh. Pressure was made by both, but one always exerted a much firmer pressure than the other; and, as soon as the pressure became uncomfortable, one tourniquet was relaxed, and the other tightened. In this way he went on, alternating the pressure of the tourniquets (keeping the surface underneath them sprinkled with starch), for eighteen weeks. Pressure was then gradually taken off, and the tourniquets removed. Pulsation had entirely ceased. There was, however, a slight return of pulsation at the end of three weeks, which rendered it necessary to apply a single tourniquet for three more weeks, at the end of which time it had again ceased. He was kept in the hospital two more weeks, and discharged cured in January last. I saw him again a few days ago, and examined his leg. It appeared to be cured, a small solid mass occupying the place of the former pulsating tumour. He has been employed in bricklaying for the last three months.

Art. 221.—*Treatment of Rupture of the Ligamentum Patellæ.*

By M. Sistach.

(*Edinburgh Medical Journal*, August, 1868.)

We extract the following practical conclusions from a work by M. Sistach on the above subject:—

1. As far as treatment is concerned, rupture of the ligamentum patellæ, transverse fracture of the patella, and rupture of the tendon of the quadriceps extensor, seem by most surgeons to be regarded as the same accident.

2. Position and immobility for a sufficient length of time are quite sufficient to effect a good cure, without any use of the compressive bandages and apparatus so generally used, which are liable to do harm rather than good, preventing the nutrition of the limb, and specially the formation of the new material which is to unite the divided ends of the tendon, causing atrophy of the limb and local scurvy.

Art. 222.—*On the Treatment of Fracture of the Patella complicated by Opening of the Knee-Joint.*

By Dr. Georges Bouchard.

(*Des Fractures de la Rotule, &c.* Paris, Lefrancois. 1868. pp. 82)

1. These complicated fractures are quite analogous in their symptoms and progress to penetrating wounds of the knee.
2. Whenever a similar lesion is presented to the surgeon, the first indication for him to fulfil will be to endeavour to bring about an osseous reunion of the fragments of patella.
3. The osseous reunion ought to be established in order to avoid an adhesion of the fibrous tissue of the patella to the cicatricial tissue of the skin, as this condition might, with the least exaggerated movement of the patient, produce rupture of the fibrous and cicatricial tissue, and consequently an opening into the knee.
4. In order to facilitate the discharge of pus it would be necessary to open the joint at one or both sides of the knee.
5. A drainage tube should be passed through the sub-crural synovial sac in order to avoid ulceration of this part and purulent effusion between the muscles of the thigh.
6. This drainage tube may be replaced by a roller applied above the knee so as to produce compression of the synovial cul-de-sac.
7. The surgeon should employ constant irrigations and injections of spirit and water.
8. If in spite of this treatment complications should come on which might place the life of the patient in danger, amputation of the limb must be performed without hesitation.
9. If the patella has been comminuted it will be necessary to extract the loose fragments or to perform partial or total ablation of the patella, according to the indications furnished by the lesion.

Art. 223.—*Case of Compound and Comminuted Fracture of Patella, laying open the Cavity of the Right Knee-Joint, in which the Limb has been saved, with almost Perfect Use of the Joint.*

By John Madden, M.B. T.C.D., F.R.C.S., Surgeon-Major 2nd Battalion 8th Regiment.

(*Medical Times and Gazette*, October 10.)

Dr. Madden lays before the profession the following very interesting and instructive case of conservative surgery.

"P. D. R., aged thirty years, an Irishman, by trade a tailor, total service nine years, all in the Mediterranean, brought to hospital at half-past one o'clock P.M. on July 26th, 1867, by the civil police, who

found him lying in the ditch opposite the Auberge di Bavaria. When admitted he was in a state of intoxication, and it was found that he had sustained a compound and comminuted fracture of right patella, laying open the knee-joint, and also a severe lacerated and contused wound of the integuments covering the lower part of os frontis, and left ala of the nose was split by direct violence, as, when running away from the picket, he leaped over the bastion opposite the Auberge di Bavaria to effect his escape, sustaining a fall of about forty feet. I saw him in half an hour after his admission to hospital, and found him in a state of great excitement from drink. When placed in bed, it was found that the right patella was fractured perpendicularly into several small pieces; the knee-joint was laid open from condyle to condyle of the femur. It was impossible to bring the lips of the wound together, as he kept violently and forcibly flexing the joint, and each time he did so the crucial ligaments were bought into view. He was seen by all the medical officers in the General Hospital, Valetta, who strongly advised immediate amputation, considering the saving of the limb hopeless, and that there would be less shock to his system by performing primary amputation. Although he had received such a fearful injury, I determined to give him the chance of saving the limb. With this view he was restrained by the united power of relays of three men until the excitement from drink passed off; the limb was forcibly extended and placed loose in a fracture-box, the lips of the wound were drawn together by four points of suture, and a compress of lint dipped in the blood from the orifice of the wound was placed over it.

"On the following day violent reaction was established, and considerable oozing of blood mixed with synovial fluid took place from each angle of the wound; the joint was also enormously tumefied. The limb was retained in the fracture-box, and ice in a bladder suspended from the central ring of a cradle, so as to take off its weight, was kept constantly applied to the joint. The next day he had several rigors, and a discharge of blood, synovia, and pus took place from the angles of the wound, accompanied with dusky redness of the surrounding integuments. On July 30 the oozing of blood and pus ceased, the tumefaction abated, as also the discoloration, and the lips of the wound had united except at its angles; the points of suture were removed, and ice in a bladder, as before, and poultices, were alternately applied to the joint. He continued uninterruptedly to improve, and almost free from any constitutional disturbance; the external angle at the end of six weeks united; the internal one remained open until a month ago, discharging an oily fluid very much resembling synovia, from which several small pieces of dead bone, portions of the fractured patella, have exfoliated. All the openings are now perfectly healed. The patient's general health is very good. He daily takes walking exercise in the open air without the trifling aid of a stick, and the power of flexing the joint is almost as good as in the normal state; and I have no doubt, in process of time, when the exuberant formation of callus thrown out in the union of the several broken pieces of the patella is absorbed, it will be as perfect as before the injury."

Art. 224.—*On Resection of the Knee for Injury.*

By E. M. Spillmann.

(*Archives Générales de Médecine.*)

In this memoir a number of clinical reports relating to resection of the knee for traumatic lesions of this joint are collected together for the purpose of supporting the following propositions:—

1. That conservative surgery cannot summon in its support resection of the knee in the casualties attending a campaign.

2. That this operation, on the other hand, when applied for wounds occurring frequently in civil life, is a more justifiable and hopeful proceeding.

M. Spillmann gives statistics of resections of the knee performed for injuries caused in warfare, and also tables of resections performed for the lesions of civil life.

Statistics during war.—In the war of the Duchies in 1848 and 1849, there was one case of resection of the knee for gunshot injury, the termination of which was fatal one month after the operation. In the Crimea there was one fatal case in the English army. In the American war, there were ten cases, 8 of which were fatal, and 2 perfectly successful. In the Schleswig-Holstein campaign of 1866, there were 7 cases, of which 6 were fatal. The whole number of reported cases is 19, with 16 deaths and 3 recoveries.

M. Spillmann attributes the fatality of resection in cases of gunshot wound to the conditions under which the wounded are placed, and the extensive contusion and injury of the femur resulting in osteomyelitis.

Statistics of resection performed for wounds of the knee-joint in civil practice.—Thirteen reported cases are given of severe injuries to the knee from pistol balls and small shot, incised wounds, falls, blows, and in one instance from a deep burn. These cases were all treated by resection, with recovery in ten instances, and death in the remaining three. Out of the ten recoveries there are two instances in which amputation was subsequently resorted to with success. In two instances resection was performed fifteen days after the injury, in one instance three weeks after, in one instance a month after, in one instance five days after; and in one instance also three weeks after the fall of an eschar, which left the joint exposed. In eight out of the ten successful cases, resection was practised at a period at which amputation of the thigh when applied for lesions of the knee is nearly always fatal.

Art. 225.—*Excision of the Knee-Joint Eight Years after the Operation.*

By Thomas Smith, F.R.C.S., Assistant-Surgeon to St. Bartholomew's Hospital.

(*Transactions of the Clinical Society*, vol. i.)

At a meeting of the Clinical Society of London, held February 28th, Mr. Thomas Smith showed a patient, seventeen years of age, whose

knee-joint he had resected eight years ago. At the time of the operation, the patient was nine years of age, and had suffered from disease of the knee-joint for three years. About an inch of the end of the femur was removed, a thin slice was taken off the tibia, the patella was taken away, and the hamstrings were divided. The epiphysial cartilage of the femur was injured to a small extent.

A photograph taken five months after the operation, showed a well-formed and almost straight limb, which was thoroughly strong and useful—a firm bony union existing at the knee. The boy was more active, and a better runner than most of his age, though the limb was shortened to the extent of two inches. He remained strong and active, his limb being straight and thoroughly efficient until three years ago, when he began to learn carpentering; very soon after this, from standing a great deal on the left leg, the resected knee began to give way, the limb being as if affected with genu valgum. After giving up carpentering, he worked on a farm for a year; this injured his leg still more. He has now (February 1868) given up his work two months, and since then the distortion has remained in *statu quo*. He can walk four or five miles, can run and can jump, though the limb is considerably bowed inwards at the knee. The left limb is five inches shorter than the right, the loss in length being somewhat due to the bending of the limb; when measured over the knee the shortening is reduced to three and a-half inches.

The case was brought forward to show the effect of the operation of resection in growing bones. During the eight years that had elapsed since the operation, the sound limb had outgrown the resected one by one and a-half inch. Thus the diminution in the power of growth had been small—indeed smaller than might have been expected, considering that the epiphysial cartilage was injured to some extent at the time of the operation.

The result of the case supported a statement made by Mr. Smith in 1857, that provided the epiphysial cartilages were uninjured by the operation, the growth of the limb would in all probability be unchecked.

Art. 226.—*The Results in Thirty-Nine Cases of Excision of the Knee.**

By Professor Humphry.

(*Medical Times and Gazette*, November 21, 1868.)

This paper was a supplement to one published by the author in the *Medico-Chirurgical Transactions*, vol. xli., in which thirteen of the cases are related. Most of the remarks in that paper have been corroborated by his subsequent experience. The cases were all treated in Addenbrooke's Hospital. Twenty-eight recovered, gaining firm, sound, and

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, held November 10.

useful limbs; two died, one from an attack of hæmatemesis, which seemed to have no particular relation to the operation; nine underwent amputation, of whom five recovered and four died. The operation was, in most instances, performed on account of synovial disease with ulceration of the cartilages and the bones, destroying the joint so as to leave no hope of its recovery to usefulness. In some it was performed for the purpose of removing a crippled useless joint from which the disease had subsided. The clean-cut surfaces of the tibia and femur, if placed in good apposition and kept at rest, were commonly found to unite quickly and form a firm basis of support, so that the patient was able to walk, run, and work well; and there has been no liability to return of disease at the part in any of the cases. The limb should be kept straight; but even in the instances in which it became bent it was still very strong and useful. In the young subject, if the epiphysial, or growing, lines of the femur and tibia are left uninjured, the limb may keep pace in growth with the other limb, and generally does so, or nearly. In the cases in which the operation did not succeed, the failure was generally due to continued suppuration in scrofulous or unhealthy persons. Professor Humphry makes a single external semilunar incision across, beneath the patella, is careful to remove all the diseased bone, and to leave the cut surfaces of the tibia and femur in good apposition, having taken pains to secure the bloodvessels by torsion. He pays great attention to the adjustment of the limb, in the first instance, with splints and bandages so arranged as to leave the line of incision exposed, and is very unwilling to disturb the parts afterwards. He not unfrequently allows an interval of five, six, or more weeks to elapse before he removes any of the bandages, thus securing primary union throughout the wound, or great part of it, in several instances. He does not allow the patient to leave the bed till firm union of the bones has taken place.

Art. 227.—*On the Removal of Foreign Bodies from the Knee-Joint by means of Direct Incision.*

By Dr. Hugo Max Benndorf.

(*Inaugural Dissertation.* Leipzig. *Schmidt's Jahrbücher*, No. 9, 1868.)

The radical operation for the removal of a large floating body from the knee-joint may be performed according to one of two methods—the direct or the subcutaneous.

The surgeon, before undertaking the operation, has in the first place to decide whether the annoyance to the patient is great enough to justify so important a step; also whether a perfect recovery is to be expected after the operation; and finally, whether the operation can be performed with necessary safety and facility.

The foreign body should be free and isolated, and the general system capable of withstanding the effects of the surgical proceeding. With regard to the two radical methods, the direct operation is considerably simpler and more easy of performance, but on the other hand it entails a

greater mortality than the subcutaneous plan. This latter method has the great disadvantage that the operation in many instances cannot be completed, either because the foreign body cannot be removed from the capsule, or because it slips back again and cannot be found a second time. The advantage of the subcutaneous method consists in the fact that no penetrating wound of the joint is made; this objection to the direct method can, however, be considerably lessened. The patient must be ordered to keep at rest for several days before the operation; the suture must be carefully applied, and rest and antiphlogistic treatment insisted upon in order to promote, if possible, union by first intention. Fock and Simon have recently brought the direct method again into a prominent position.

Dr. Benndorf has collected 223 cases in which the direct method had been carried out. The result of 5 of these remains unknown, and in 2 the operation was not completed. Of the remaining 216, there were 143 in which cure followed without bad symptoms, 32 attended with bad symptoms, and 4 which ended in death.

Fifty cases were collected by Benndorf, in which the subcutaneous operation had been performed. In 28 of these cure resulted without bad symptoms; bad symptoms occurred in 5 cases, and death in 5; in 12 cases the operation was not completed.

From these records was obtained the following:—

	A. Direct Incision.	B. Subcutaneous Incision.
Cure	81 per cent.	66 per cent.
Fatal issue	19 per cent.	10 per cent.
Operation unfinished.	0·9 per cent.	24 per cent.

Dr. Benndorf hence draws the conclusion that the subcutaneous method would, on account of its smaller mortality, be preferred, were it not for the fact already mentioned, that it must often remain unfinished. In other respects the direct method, with caution in prophylaxis, in the performance, and in the after-treatment, may be rendered equal in worth to that of the subcutaneous operation.

The following cases occurred in the hospital practice of Professor B. Schmidt:—

Case 1.—A soldier, twenty-two years of age, ten weeks before his admission injured himself in leaping from a vaulting-board. He was immediately attacked with severe pain in the left knee-joint, and at once led off by his comrades to a remote lazaret. On examination Professor Schmidt found that the left knee was much swollen; there was no pain whilst the limb was in the extended position, but attempts at movement caused immediate suffering; a floating body could be felt; this was generally seated at the upper margin of the patella, but could be moved away by the patient towards the inner and lower part of the joint. After the affected extremity had been placed on a splint for five days, and a bandage had been applied, Professor Schmidt pressed the body towards the inner and lower part of the capsule, and then made over it an incision about one inch and a quarter in length. An incision about one inch in extent was made in the capsule, and through this the body slipped out after the application of slight pressure. The external edges of the wound were pressed together by the finger and united by three

button sutures. The limb was immediately confined and covered by an ice bladder. No bad symptoms followed; the temperature after the operation never exceeded 30·4° R. At the end of six days the wound was healed; after seventeen days movements in bed were permitted, and on the thirty-second day the patient left the hospital *perfectly cured*. Chloroform was not administered during the operation.

The removed body was shaped like the heart on playing cards; it measured eleven lines and a half in length, nine lines in breadth, and two lines and a half in thickness. Its colour was bluish white, marked with yellowish patches, like that of hyaline cartilage. This coloration affected the convex surface, which presented under the microscope the tissue of hyaline cartilage, whilst the concave surface was found to be much firmer and like a layer of bone.

Case 2.—A woman, thirty-eight years of age, had been treated for a long time for hydrarthrosis of the left knee, when the joint was finally punctured. After this a floating body was discovered in the joint. As no diminution of the inflammatory joint symptoms could well be expected before the removal of the foreign body, an operation was proposed to the patient, and then performed by Professor Schmidt, in the same manner as that in the former case. The woman was not put under the influence of chloroform. No bad symptoms followed, and the temperature was never higher than 30·2° R. At the end of three months the woman had recovered so far that she was able, with the limb fixed in a bandage, to go about well and without pain.

The body measured thirteen lines and a half in length, eight lines and three quarters in breadth, three lines and a half in thickness, and consisted wholly of hyaline cartilage.

With regard to the origin of these bodies, Dr. Benndorf holds that they only exceptionally, and in very rare instances, proceed from any other cause than a previous or still existing inflammation. The first case he considers to be one of a new formation, arising from the joint tufts of the synovial membrane, and originally stalked, which at first caused no trouble, but afterwards became detached from its pedicle, and on the occasion of the injury slipped between the ends of the joint.

Art. 228.—*Dislocation of the Hip-Joint reduced by making the Femur a Lever acting upon a Fulcrum placed in the Groin.*

By George Sutton, M.D.

(*American Journal of the Medical Sciences,* October.)

Dr. Geo. Sutton, of Aurora, Ind., relates (*Western Jour. Med. and Surg.*, Sept. 1868) a case of this in a strong healthy boy, eight years of age, whose clothes being caught in some machinery, he was thrown over with great violence. On examination, Dr. S. at once detected dislocation at the right hip-joint. The limb was shortened, toes inverted, and the head of the femur could be distinctly felt resting high on the

dorsum of the ilium. Dr. S. at once attempted reduction by Reed's plan, but not succeeding immediately in getting the bone over the rim of the acetabulum, he placed a roll of cloth of the proper size in the groin, partly resting against the anterior portion of the ilium. "This was held firmly in its proper place, while the limb was gently flexed upon the abdomen over the support which acted as a fulcrum; this raised the head of the femur and prevented it from rolling from the desired position, and by gently moving the limb outwards, and at the same time raising the leg, when I had it in the desired position, I had the pleasure to hear the bone glide into the socket with the noise usually heard at the time when dislocations of the femur are reduced. All motion of the joint was now free and unattended with pain, and the boy declared that he was well. The usual after-treatment was resorted to, and in five weeks he had entirely recovered, and was walking without the least lameness."

Art. 229.—*Dislocation of the Hip of Seven Months; Attempt at Reduction; Fatal Result.*

(*The Lancet*, August 15.)

A man, twenty-nine years old, was received at the Pitié Hospital of Paris, on the 13th of May last, in the condition above stated. M. Broca attempted to reduce it, using a force of 489 lbs. No reduction was obtained, and the patient insisted upon leaving the hospital five days afterwards. A fortnight then elapsed, when he presented himself at another hospital, with the hip enormously swollen, and died the next day of peritonitis. The autopsy showed that the head lay in the ischiatic notch, that it was held firmly by bundles of the torn capsule, and that the cotyloid cavity was much shrunk. Pus was found in the capsule, in the iliac fossa, in the articular cavities, and had found its way into the peritoneum, through the obturator foramen.

Art. 230.—*Reduction of Dislocation of the Femur.*

By M. Dolbeau.

(*Medical Times and Gazette*, October 31.)

At the Academy of Medicine, M. Dolbeau, who is a candidate for the vacant seat in the section of Surgical Pathology, read a paper upon the reduction of dislocation of the femur by combined flexion and rotation, or, as he terms it, Desprès' method. He says that Pouteau, in the last century, first conceived the idea of reducing this dislocation without employing force, recommending flexion and moderate traction, at the very time when Petit was inventing his powerful traction machine. The gentler method has been subsequently recognised as the preferable one by various practitioners; but it is to Desprès, in 1835, that is due

the honour of combining into a method Pouteau's plan of flexion with rotation of the limb outwards. During ten years M. Dolbeau has had occasion to resort to this plan eleven times, eight of these being ilio-ischiatic, two ilio-pubic, and one ischio-pubic dislocations. They have all been easily reduced by himself alone without assistants, all the patients having been first submitted to chloroform. His experience, therefore, leads him to conclude—1. That all recent dislocations of the thigh may be easily reduced by Desprès' method. 2. This may succeed even when force has been employed in vain. M. Dolbeau gives a case of a dislocation of fifty-five days' standing, which he reduced after several attempts with the pulleys had been made in vain. 3. The flexion of the thigh, combined with external rotation, permits the head to be disengaged from all the obstacles retaining it, causing it at the same time to traverse the various points of the circumference of the cotyloid cavity, until it is brought in relation with the rent in the capsule, through which alone it can gain re-admission. 4. Always, before having recourse to force, Desprès' procedure should be tried. M. Dolbeau says he professes nothing new, but only recalls attention to a simple manœuvre in every one's power to execute, and the value of which has become doubled since the discovery of chloroform.

Art. 231.—*Two Cases of Excision of the Hip.*

Under the care of Mr. Pick, of the Belgrave Hospital for Children.

(*The Lancet*, November 14.)

Excision of the hip is an operation respecting the value of which very considerable difference of opinion exists; but in the two following cases there can be little doubt that it was the proper course to pursue, inasmuch as the limb was entirely useless, and there was a progressive deterioration of the general health, and at the same time, as far as could be ascertained, an entire absence of all visceral mischief. Moreover, in consequence of the advanced state of the disease, there was little probability of a spontaneous cure taking place; and even if this were likely to ensue, the limb would have been a less useful one, on account of the dislocation, than was obtained by removing the head of the bone.

Case 1.—Maude B——, aged eleven, was admitted into the Belgrave Hospital for Children on August 1st, 1867. The history was that she had always enjoyed good health until six years previous to admission, when, after an attack of scarlet fever, she began to develope all the usual symptoms of hip disease. The disease was, however, very chronic, and she continued under treatment, at intervals, until two years ago, when abscesses formed, which have continued to discharge. Since the formation of matter, her general health has gradually deteriorated. On admission she was found to be a strumous child, with fresh complexion and thin hair. Attempts to semiflex and rotate inwards the

left thigh caused intense pain. There was about an inch and a half of shortening, and evidently displacement of the head of the bone, for it was found that the trochanter lay almost entirely above a line drawn from the anterior superior spine of the ilium to the lower border of the tuberosity of the ischium. Upon rotating the bones upon each other, under the influence of chloroform, distinct crepitus could be detected. In front of the joint, about the position of the insertion of the psoas muscle, were two sinuses, which led down to exposed and softened bone. There was no cough, and the chest sounds were healthy.

On August 12th, the patient having been placed under the influence of chloroform, a single long incision was made just behind the great trochanter, and the head of the bone freed from its attachments with the point of the knife. In doing this a large abscess was opened, and a quantity of matter escaped. The bone was now divided by means of a saw just below the trochanter. The wound was brought together with a single suture, and the limb put up on a long interrupted splint. The head of the bone, on being examined, was found entirely separated from the shaft, and was the size of a marble, much softened and carious. The trochanter was also much diseased. The acetabulum was apparently healthy.

After the operation the girl went on well. On the sixth day the splint was removed, and the limb simply placed between two sand-bags, with a weight attached to the foot.

On Aug. 26th the wound was quite clean and healthy, and beginning to fill up rapidly from the bottom. One of the sinuses healed at the end of six weeks, and at the end of eight weeks there was some amount of union, and she was allowed to get up. Her recovery was somewhat retarded by a little piece of dead bone in the other sinus, which was, however, eventually got rid of. When she was discharged, on Dec. 9th, there was about one inch of shortening, the limb was in good condition, and she could bear the weight of the body upon it.

She was seen on Sept. 4th, 1868, when she was found to have gained flesh and grown considerably. She could walk a couple of miles without any support. There was exactly one inch of shortening; there was firm union and perfect motion in every direction. The limb, which previously had been much wasted, was now nearly as plump and firm as the opposite one.

Case 2.—Henry H——, aged five, was admitted March 19, 1868. His mother stated that two years ago he fell down while running, and from that time was noticed to constantly limp. He then complained of pain in his left knee, followed in a few months by pain in the hip and down the thigh. Fifteen months before admission an abscess formed; this was opened, and had been discharging ever since. About the same time that matter formed, the right knee became "enlarged and stiff," and the leg flexed on the thigh; so that from that time he has been unable to walk at all.

On admission he was found to be a scrofulous-looking boy, but fairly nourished. The left hip-joint presented the characteristic appearances of advanced morbus coxæ; the thigh was flexed on the pelvis, and fixed in that position; there was extreme wasting of the muscles of the buttock, and the head of the bone could be felt to be displaced,

and lying on the dorsum of the ilium. The thigh was shortened to the extent of an inch. On its outer side were two sinuses, running upwards in the direction of the joint, and leading down to carious bone. The ends of the tibia and femur on the right side were much enlarged. The knee was semiflexed, and anchylosed in this position. There was no cough, and the chest sounds were natural. The urine was healthy, and contained no albumen.

On the 16th of April excision was performed in the ordinary manner by the longitudinal incision behind the trochanter. The head was found resting on the dorsum of the ilium, much diseased, the cartilages having vanished, and the bone being eroded and softened. The acetabulum was also much diseased, and a piece of bone, the size of a hazelnut, was lying loose in the cavity. The limb was put up on an interrupted long splint.

The boy went on well after the operation, and the wound soon began to heal. On the 20th of May both the original sinuses were closed, and the wound was quite healthy. The splint was now removed, and extension made by a weight and pulley, the limb being supported by sand-bags. In the beginning of July the wound was all healed, except a minute sinus, which discharged a little thin sero-purulent fluid. He was allowed to get up, having been fitted with a leather splint. He was discharged on the 3rd of August, and sent home again into the country. There was then about an inch of shortening. The ends of the bones were firmly united, and there was free movement in every direction. He could walk on the left leg with the help of two crutches. In consequence of the disease in the left knee he was unable to put this limb to the ground.

Art. 232.—*On Amputation of the Thigh by Separation of the Lower Epiphysis.*

By George Buchanan, A.M., M.D., Surgeon to Glasgow Royal Infirmary, Prof. of Anatomy in Anderson's University.

(*The Lancet*, October 31.)

In cases of injury or disease demanding amputation in the lower part of the thigh, the operation known as "Carden's" is generally admitted to give the best results, both as regards safety and the shape of the stump. Dr. Buchanan's own experience, especially during the past two years, in which he has operated many times, is decidedly in favour of that method when practicable.

But he desires to call attention to a method of dividing the bone in patients under puberty, which he has practised most successfully in two cases, and which he intends to adopt in all similar instances.

"Case 1.—A boy, aged ten, had his leg crushed by machinery close up to the knee. I performed amputation by a long anterior flap. After I had cut through the soft parts, I drew the knife round the condyles to divide the periosteum, where I meant to apply the saw, when I found that it passed into the soft cartilage separating the inferior epiphysis

from the shaft of the femur. I laid aside the knife, and by using gentle force easily broke off the epiphysis, leaving the shaft with a rounded end, in which neither cancelli nor medullary cavity were exposed. The wound healed with great rapidity, and it was the most perfect stump I ever saw.

"Case 2.—A boy, aged twelve, was admitted under my care in May, 1868, with disease of the knee-joint. Treatment failed to arrest its progress, and in the beginning of October there was evidence of degeneration of the cartilages. Amputation was imperative. The operation was performed in the same way as in the last case; this time the separation of the epiphysis being kept in view from the first. A large anterior flap was formed by entering the knife at the condyle, extending a straight incision about three inches perpendicularly downwards; then making a semilunar sweep in front of the tubercle of the tibia, and carrying the knife in a straight line to the condyle opposite the point of entrance. A semilunar posterior flap half the size was then made. The knife was then drawn round the cartilaginous interval between the shaft and the epiphysis, and sunk into it a short way. By now pressing my thumb-nail into the groove thus made, I had no difficulty in breaking off the lower epiphysis, leaving the shaft of the femur with a rounded end, in which neither cancelli nor medullary cavity were exposed. The femoral artery was effectually secured by torsion, as also three small vessels. The edges of the wound were brought together by silver sutures. The patient was placed in bed, with the stump resting on a pillow, no dressing of any kind being applied, as is my usual practice in managing such cases. The stump promises to be as perfect as in the last case."

Three advantages seem to Dr. Buchanan to attach to this plan, which is applicable to all cases of amputation of the thigh in patients under puberty.

1st. The shape of the end of the bone renders the stump exceedingly favourable for the adjustment of an artificial leg.

2nd. The end of the bone, being rounded, nodular, and smooth, needs little, if any, alteration by reparative processes during the cure.

3rd. The risk of purulent absorption and pyæmia, which always attends the exposure of the cavity of a bone, whether cancellated or medullary, is in this form of amputation absent, so far as the bone is concerned.

Art. 233.—*Luxation of the Thigh forwards, with Partial Paralysis of the Extensor Muscles of the Knee-Joint.*

By Dr. C. G. Rothe, of Allenburg.

(*Deutsche Klinik*, No. 38, 1868.)

Fraulein von F., a pupil in a high class school, fifteen years of age, of strong build and in blooming health, was on May the 9th amusing herself in company with several other pupils by swinging, and whilst standing behind the swing, formed of two pairs of long poles, and a long sitting-board, and thrusting the latter forwards, she caught her left

foot in her dress, and fell upon the left knee. In order to keep herself from falling with much force, she clasped the swinging seat with both arms, and by the return movement of this her body was bent backwards, whilst the left knee was resting on the ground, and she was thrown to the ground, according to the statement of a teacher, rolled up like a ball. After she had been lifted up, and assisted to the sick-room of the school, a practitioner was sent for, and gave it as his opinion that the injury was not serious, but merely a contusion of the soft parts about the hip-joint. Dr. Rothe saw the patient at night, and found her slightly feverish and complaining of pain in the left hip, which was then covered by a bladder containing ice. No close examination of the seat of injury was then made.

On the following morning Dr. Rothe was informed that the patient had passed a very restless night, and that there was acute pain in the region of the left hip, particularly in the groin. There was at once found in the deep parts of the inguinal region, and evidently over the horizontal part of the pubis, a painful swelling of bony hardness, and of the size of the hen's egg: this at the inner part could be grasped by the hand, but externally was not clearly defined. At the inner side of the tumour could be readily perceived the pulsations of the stretched femoral artery. The very fleshy gluteal muscles were relaxed. Pain was excited by firm pressure. The trochanter could not be felt at the same level as that on the right side, and the region where it ought to have been was much flattened. The injured limb was stretched out by the side of its fellow, adducted, and increased in length to the extent of one inch. The foot was rolled completely outwards, and its point could be moved forwards to a slight extent only at the will of the patient, but by the application of force through three-fourths only of its normal range. At the inner and lower margin of the knee-cap was observed an abrasion one inch in length; the knee was somewhat swollen and painful. Active movements of the hip-joint were almost abolished; passive movements could be made in all directions, but caused severe pain. The patient had remarkable power over her left foot, which by a kind of scooping movement she could approximate to and even place over the sound extremity without exciting pain in the hip. The patient, when placed in the upright position, and properly supported, was able to stand on both feet. Flattening and extension of the buttock then became very evident, and the oblique fold was somewhat deeper on the left side than on the right.

Dr. Rothe did not hesitate to assert that the case was one not of contusion, but of forward luxation at the hip-joint. He returned in the afternoon, in company with another practitioner, for the purpose of effecting reduction, but was much surprised when his colleague, after a renewed examination, gave it as his opinion that the injury did not consist in a luxation, and that the diagnosis of the practitioner called in on the previous day was the correct one. This view was based on the relatively considerable passive mobility of the limb, and chiefly on the circumstance that the patient when in the upright position was able to abduct the left leg, and also to bring it to the side of its fellow. The tumour in the groin and the flattening over the trochanter remained unexplained.

Two days later Dr. Leonardi, of Dresden, was called in by the father of the patient, and after a brief examination fully agreed in the opinion of Dr. Rothe. With the assistance of a third surgeon the luxation was at once reduced by Monteggia's method. Chloroform was administered to the patient, who lay upon a mattrass placed upon the ground; the pelvis was then fixed, and counter-extension kept up with a towel. Dr. Leonardi grasped the head of the femur—the tumour in the groin—whilst Dr. Rothe and the third surgeon forcibly extended the thigh downwards and outwards, the hip and knee-joints being bent at a right angle. As soon as Dr. Leonardi felt that the head of the bone was elevated on to the border of the articular cavity, he gave a sign to Dr. Rothe, who, seizing the left limb with his right hand in the popliteal region, and his left on the foot, rolled the foot inwards, and at the same time made a rapid and forcible movement of adduction. After this had been performed three times, the head of the femur passed with an audible sound into the acetabulum. The tumour of course disappeared, the trochanter regained its position, and the hip its natural extent and form.

At the end of two days all pains about the hip had ceased; the knee remained tender and slightly swollen. Exactly three weeks after the reduction the patient made her first attempt to move about. Supported by Dr. Rothe she went across her room, but complained that the left limb was lengthened, and that she was unable to step firmly on the left foot, which slipped. There was no pain in the hip-joint. Suddenly as the left flexed leg was being extended in order to be advanced forwards, the patient gave a loud cry and complained of severe pain in the knee. After she had been placed on her bed it was at once made out that the leg was not increased in length, and that the passive movements of the hip and knee-joints were completely normal. The pain, which had been soon relieved, was again excited by deep pressure close over the upper and inner margins of the patella, and extended upwards along the common extensor muscles, principally the vastus externus, as far nearly as the fold of the groin. Forcible flexion of the knee caused pain, and a slight prominence of the knee-pan.

The leg when flexed could not be extended at the will of the patient, whilst when once extended it was retained without pain in that position. The soft parts about the joints were slightly swollen. Dr. Rothe concluded that the extreme flexion of the knee during the original injury had caused an injury of the anterior portion of the capsule of the joint, of the fascia of the common extensor muscle, and of the muscular tissue itself, as a result of which paralysis together with hyperæsthesia of the extensor muscles remained. The affected muscles reacted in no very marked manner under the influence of the inductive current. As perfect rest of the injured parts seemed to be indicated, the patient was ordered to keep in the house, and a gypsum bandage was applied over the damaged knee; with this the girl was able to move about without pain. After the bandage had remained for some weeks the patient learnt to walk better. After its removal the swelling of the knee was found to be much reduced, and that the extremity could be held in the extended position for some seconds. Under the employment of spirituous liniments, and with methodical exercise of the muscles,

the limb acquired strength, and the patient gradually improved, and was finally enabled to walk without the bandage.

This case Dr. Rothe considers worthy of notice, as being one of luxation of the thigh forwards on the pubis, associated with an evident lengthening of the limb to the extent of one inch, with slight depression of the pelvis on the side of the injury, and with excessive mobility of the luxated limb, which caused great difference of opinion in the determination of the diagnosis—a warning, as it appears to Dr. Rothe, for attention, in examinations of a like kind, to be directed to the anatomical conditions, in the first place, and before the physiological and physical signs.

Art. 234.—*On Backward Luxation of the Head of the Femur.*

By M. Tillaux.

(*Gazette Hebdomadaire*, No. 30, 1868.)

The following remarks were made by M. Tillaux at a meeting of the Imperial Society of Surgery :—

"I assert that the muscles are not the agents which limit the ascent of the head of the femur in luxation of the bone backwards. When the head of the femur passes under the obturator internus, it is not this muscle which prevents it from returning. It was the opinion of Malgaigne that in ischiatic luxation the head of the bone passed under the obturator internus, which muscle acted as a barrier and prevented the return of the femur. M. Broca also held this opinion; but I will endeavour to demonstrate that it cannot be admitted.

"Here is a preparation in which I have produced an ischiadic luxation. I cut all the muscles of the region: obturators, pyramidales, gemelli, and glutei, and now the head of the femur cannot be advanced a single line; consequently the obstacle is not formed by the muscles.

"What part in the production of dislocations of the hip is played by the capsule? It limits the movement of the head, and decides the form of the luxation. Here is a normal joint; iliac luxation is produced by a movement of inward rotation and of flexion with adduction. In this movement the capsule is rendered tense at its posterior part, and when flexion takes place at the same time, it is stretched at its inferior and posterior part. I make an incision in the capsule below and behind so that the head may pass out of the articular cavity; then by making a combined movement of flexion and rotation, incomplete luxation is produced. This always takes place. What is the condition of things in an incomplete ischiadic luxation? There is rupture of the capsule behind and below; when the capsule is ruptured only at this point, the luxation is always incomplete. This fact is confirmed by the reports of three autopsies made by Malgaigne. There are, then, incomplete luxations of the femur.

"What must take place for the production of a complete iliac or

ischiadic luxation? Here is a preparation in which the head of the femur is retained merely by a very small piece of the anterior part of the capsule. Here I can readily produce an iliac luxation, but the head of the femur cannot be located on to the ischium: the portion of capsule preserved intact prevents the head of the bone from being carried backward. Thus, by preserving the anterior part of the capsule alone an iliac luxation is produced. You see that in order to produce an ischiadic luxation the capsule must be completely divided. I will make now an inverse demonstration: by preserving only the superior part of the capsule, I obtain an ischiadic luxation, and I cannot have an iliac-luxation.

"I conclude from these experiments that there are two forms of cases—femoral luxations backwards, the iliac and the ischiadic; in order to transform an iliac into an ischiadic luxation, it is necessary to make a complete rent into the capsule. There are three varieties of ischiadic luxation, according to the extent of the rent. In the first variety, the head of the femur rests upon the groove situated below the tuberosity of the ischium; in the second variety, the head is level with the spine of the ischium; in the third variety, the head of the femur rests upon the ischium at the point where this tuberosity is continuous with the ilium, and sometimes in the sciatic hollow."

ART. 235.—*On the Impacted Fracture of the Neck of the Thigh-bone, more particularly in Reference to its Diagnosis; with Cases.**

By THOMAS BRYANT, F.R.C.S.

[(*British Medical Journal*, August 22.)

The author commenced his communication by dwelling on the importance of the diagnosis of cases of impacted fracture, and that too in the very earliest period of the case, and expressed an opinion that the diagnosis of such form of injury is not one of difficulty. He referred in complimentary terms to the work of Professor R. W. Smith of Dublin, and stated his own investigations tended to support the opinions of that eminent surgeon. He believed with Mr. Smith, that all extracapsular fractures of the neck of the thigh-bone are in the first instance impacted fractures; and that many intracapsular factures, and all the mixed forms, are of a like kind. The impacted bones are loosened in some cases by a second fall, in others by excess of violence received in the original accident, and in too many instances by the surgeon in his anxiety to make out the presence of a fracture by the detection of crepitus. He said that this looking for crepitus, in all cases of fracture, is a practice of considerable danger; in fractures of the neck of the thigh-bone it is not only unnecessary, but it is unjustifiable. It is unnecessary, because the diagnosis of the case can be made out without the help of such a symptom; it is unjustifiable, because

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

in every case of impacted fracture, the attempt to find it is attended with irreparable mischief. Twelve cases of impacted fracture were then read in detail, and some preparations exhibited. The following summary of the symptoms, by which the nature of the injury was determined, was then given. In all, the injury to the hip-joint was communicated through the trochanter. In all, as an immediate result of such an accident, there was more or less complete inability to move the limb; but in two of the cases the patients, when in a recumbent position, could slightly flex the thigh upon the pelvis, and in one instance rotate the limb. In all, the injured limb was found to be shorter than its fellow by almost an inch, and in no case did careful extension make any perceptible diminution in the amount of shortening present. In all, the foot was either slightly everted or straight, but in no case was it everted as it is usually in the non-impacted fracture. In one case, however, this eversion was less marked than in the sound limb. In all, the head of the femur could be made to rotate in the acetabulum, and the trochanter moved with it. In few of the cases was crepitus felt, and when felt it was indistinct. In all the cases, the major trochanter was clearly placed nearer the median line of the body, than on the sound side, and nearer also the anterior superior spine of the crest of the ilium. The author concluded by expressing his belief that the symptoms enumerated clearly indicated an impacted fracture; and stated that, as a rule of practice, it would be far safer to regard all cases of injury to the hip-joint, received through the trochanter, as examples of the impacted fracture, and to conclude only that such was not the case when the symptoms clearly proved a different condition to exist, than to leave the suspicion of such a form of injury out of consideration altogether, or only to entertain the idea of its presence when the symptoms which the case presents are clearly inconsistent with the existence of any other form of recognised injury.

Art. 236.—*Treatment of In-growing Nail.*

By Dr. Babb.

(*Boston Journal*, July 9; and *Medical Times and Gazette*, August 29.)

Dr. Babb says that for several years he has been in the habit of employing in these cases, with uniform success, a saturated solution of persulphate of iron. A bit of cotton wool saturated with this is insinuated between the fungous flesh and the nail, letting the cotton turn back over the flesh on the outside also. Success depends much on the thoroughness with which the bit of cotton is pushed down to the bottom or edge of the in-growing nail.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 237.—*The Value of Chloroform in Parturition.*

By JOHN HALL DAVIS, M.D., F.R.C.P.

(*Parturition and its Difficulties.*)

THE value of chloroform, Dr. Davis writes, is especially marked in the relaxation of rigidities of the os uteri, vagina, and perinæum, for which in former days bleeding was not an unfrequent remedy resorted to. It is also most beneficial in securing the quiescence of otherwise restless patients in forceps and craniotomy deliveries, as well as in facilitating the operation of turning; nay, in rendering it possible, where otherwise its performance would be wholly impracticable. Dr. Davis has repeatedly succeeded with chloroform in accomplishing version, and in some cases in saving the child thereby, when proper but fruitless attempts had been already made, and embryotomy had, in consequence, been prepared for.

ART. 238.—*On the Pain of Parturition and Anæsthesia in Obstetric Practice.**

By A. E. SANSOM, M.D.

(*Medical Times and Gazette*, July 25.)

The author commenced by giving a *résumé* of the history of chloroform, and then referred to the immunity from danger that prevailed in chloroformisation in obstetric practice, apparently from the fact that women are less prone to the ill effects of chloroform than men, and the abolition of pain was one of the earliest and simplest effects of the anæsthetic. The author then entered upon an examination of the nature of the pain of parturition. True uterine pain differs from pain affecting the sensitive surfaces of the body in being referred to parts other than the uterus itself, and in the fact that the nerves involved are not those

* Abstract of a paper read at a meeting of the Obstetrical Society of London, July 25.

of common sensation, but the great sympathetic. The cervix is the starting-point and chief centre of true uterine pain; the nerve filaments which supply the intestines, the periphery, where occurs the chief manifestation of pain; the correlated influences contributing to form the entirety of the pain being chiefly spasm of local muscles and pains more remotely reflected to other parts of the body. True uterine pain presents just those conditions which anæsthetics are best calculated to relieve at the earliest stages of their influence; for pain and spasm are always annulled before common sensibility, and the sympathetic is more readily influenced than the nerves of common sensation. Parturition, however, at the full term differs from true uterine pain in the superaddition of motor correlations, these being so closely united that "pains" and contractions are used synonymously. The tendency of modern investigation has been to show that the abrogation of the pain of labour is a direct means of diminishing after dangers, and so of conserving life. The only question, therefore, which occurs is, whether anæsthetics ever superinduce danger, and so compromise the boon of the abolition of suffering. The author considered that hæmorrhage and possibly a retardation of expulsive efforts, had in some instances issued from the use of chloroform, but it was easy to find a reason for these complications. Either a too profound narcosis had been induced, or the agent employed had caused an enfeeblement of the powers of the circulation. Both these conditions are to be prevented by a cautious use and proper dilution of the agent employed. The author then entered at length upon the *rationale* of the action of anæsthetics, showing that chloroform acts, not by any special determination to the brain, but, like carbonic acid and the gaseous narcotics, by suspending the normal oxygenation of the blood. The first effect of anæsthetics is upon the forces of the circulation, which they exalt by increasing not only the *vis-a-tergo* of the heart, but the contractile and therefore impulsive powers of the arteries. This effect, however, varies with different anæsthetics, and this is the keystone of their danger. Chloroform, when dilute, allows of anæsthesia with no impairment, but even an exaltation, of the powers of the circulation; but concentrated it acts by superinducing circulatory paralysis. Again, anæsthetics impede the oxygenation of the blood. In doing this they do not obviously act as so-called asphyxiants. The blood need not show any change in colour, but yet science has proved that its property as an oxygen-absorber is suspended. The author next passed in review the agents at present used to relieve the pains of labour: 1. Tetrachloride of carbon, which he considered the best agent to relieve headache and the slighter manifestations of pain, but not the pains of parturition. 2. Bichloride of methylene, which seemed to present no advantages over chloroform. 3. Nitrous oxide, which, as inducing a state of asphyxia repeatedly, as would be the case in the course of parturition, he could but condemn. 4. Chloroform, which carefully administered and properly diluted, he considered the best of all anæsthetics in this branch of practice. The great desideratum is to avoid large doses, and, above all, large proportions. It is abundantly proved that an atmosphere containing from 1 to 5 per cent. of chloroform vapour is sufficient for all the purposes of anæsthesia. A table containing the results of a large number of experiments detailed by the author showed that when chlo-

roform is given by a handkerchief in the common way at temperatures of from 60° to 64° F. the proportion may vary from 9 to 35 per cent. From a number of other experiments the author determined that absolute alcohol is a good diluting agent for chloroform, restraining its volatility so that in a mixture of equal parts about one-half the vapour is given off which would obtain in the case of undiluted chloroform. The author concluded by strongly recommending to those who practised obstetrics the employment of an anæsthetic composed of one part of liquid chloroform mixed with three parts of absolute alcohol.

Art. 239.—*On Rigidity of the Os Uteri.*

By J. Hall Davis, M.D., F.R.C.P., Obstetric Physician to the Middlesex Hospital.

(*Parturition and its Difficulties.*)

Rigidity of the os uteri, Dr. Hall Davis says, may be divided into the functional and organic. The former is often resolved in time by the actions of labour, although sometimes requiring the aid of relaxing remedies. The latter form of rigidity, the organic, is more rare, and is due to some structural change in the part—from inflammation, cicatrices from former lacerations or sloughings, from carcinoma. To avoid a rupture in these cases, incisions have sometimes been resorted to; but in most cases there is left a sufficiency of intervening healthy tissue to allow of the needful dilatation without that extreme measure. In functional rigidity, time, and the natural vital actions of the part, will effect much; but so great is the suffering and the danger of laceration when the pains are violent, that treatment for the removal of such rigidity will be necessary.

The tartar emetic, the sixth or eighth of a grain every half-hour for a few doses, will, Dr. Davis has often found, in an hour or two, bring about the desired relaxation, promoting an abundant flow of mucus.

Chloroform will also be found of great value in these rigidities, where the patient's health offers no contra-indication to its use; since, at the same time that it induces relaxation, it also greatly soothes, or removes entirely for the time, the sufferings of the patient. It should be given gently, and sometimes the extra precaution adopted in Mr. Clover's plan, of administering it mixed with a definite quantity of air, will be found advisable. Or we may follow the recommendation of the Chloroform Committee of the Royal Medical and Chirurgical Society, and exhibit the vapour from mixture A.:—

Alcohol - - -	1 part, sp. gr. 838
Ether - - -	3 parts, sp. gr. 735
Chloroform - - -	2 parts, sp. gr. 1497

(As first suggested by Dr. Harley.)

Or from mixture C.:—

Chloroform - - -	1 part.
Ether - - - -	2 parts.

In all cases, however, care should be taken when giving the vapour to insure the patient's inhaling also an ample quantity of air. Dr. Davis has always himself employed pure chloroform saturated in a handkerchief, and held about two inches from the nostrils, not more than ten or twenty minims at a time. Given thus cautiously, he has never met with any injurious effects on the patient.

Dr. Davis condemns as officious and injurious the treatment of scooping, or mechanical dilatation of the os uteri with the finger.

In œdematous conditions of the os uteri, usually affecting its anterior segment, relief will sometimes be afforded by making pressure upon the head backwards during a few pains, so as to liberate the swollen portion, and allow of its ascent above reach of pressure between the head and the pubic bones.

Art. 240.—*Rigidity of the Os Uteri; removed by Chloroform Inhalation.*

Under the care of J. Hall Davis, M.D.

(*Parturition and its Difficulties.*)

The following case is related by Dr. Davis in his work on "Parturition and its Difficulties":—

"In December, 1847, I was requested by Mr. M'Nab to meet him in a primiparous labour of twenty-four hours' duration; patient's age thirty-four. The liquor amnii had come away six hours before my visit, and at the same time the head had engaged in the pelvic brim, in the first oblique position.

"*Present State.*—Os uteri rigid, half-dilated, anterior lip low down and swollen; vagina and skin hot and dry; pulse 90, not hard; the pains feeble.

"It occurred to me that chloroform, which had but recently been introduced by Professor Simpson into midwifery practice, might be usefully selected as the remedy to soften the os uteri and vagina, and to lull the patient's sufferings, which were very severe.

"I administered it on a handkerchief, folded cup-shape, holding it near her mouth and nose. In less than a minute the patient was fully unconscious of pain, and apparently asleep. Three and a half drachms of chloroform were consumed in the course of two hours, when I discontinued it, the object of its exhibition having been fully attained.

"The os uteri was now soft and fully dilated; the genital canal abundantly supplied with mucus throughout, and of a natural temperature; the skin moist and not heated; the pains strongly propellent. Within an hour after, a fine living child was born. There was no hæmorrhage. The uterus contracted well, expelling the placenta. The patient had a good recovery."

Art. 241.—*Congenital Deficiency of the Hypogastric Region.*

By John Dickie, M.D., L.R.C.S.E., Alloa.

(*British Medical Journal*, November 28.)

Dr. Dickie sends the following short note of rather a rare congenital malformation in a child delivered by him on the 18th inst. It might be called a case of epispadias complicated with a deficiency of the pubic portion of the abdomen. On the fourth day after birth, when the umbilical cord had separated, he made a minute inspection of the parts with a view to discover whether or not the malformation might be remedied by a surgical operation. The scrotum was largely developed, empty, and from its upper border an apparently normal penis projected, but it was *minus* the membranous portion of the urethra, and had a flattened gland fully exposed; immediately above this in the mesial line, as far up as the umbilicus, was an irregular space completely occupied with a round moveable mass, which had a slight elevation on each side. This was evidently the bladder, showing the openings of the two ureters on its internal surface. Pushing the mass down into the pelvic space, he observed the urine flowing from the bottom of the cavity, but could not detect the exact point of exit. The os pubis was also deficient, and to approximate the two sides of the space considerable stretching was necessary; in fact, it was with great difficulty he could even bring them together. Dr. Dickie now had to desist from further examination owing to the struggling of the child, and an oosing of blood from the still tender umbilicus. The bowels were acting regularly and well, and otherwise the child appeared to be thriving and likely to live. Considering the non-development of the urethra, the likelihood of a portion of the bladder itself being deficient, and the danger to life attending such operations as that recommended by Mr. Simon, of St. Thomas's Hospital, namely, to direct the flow of urine into the rectum, Dr. Dickie came to the conclusion that the case was beyond the reach of curative surgery.

Art. 2.—*Comparative Estimate of the Value of Different Signs of Pregnancy.*

By Graily Hewitt, M.D., F.R.C.P.

(*The Diagnosis, Pathology and Treatment of Diseases of Women.*)

In summing up generally the signs of pregnancy, and in stating the period at which the different signs are available for diagnosis, Dr. Graily Hewitt says, that perfect evidence of pregnancy is not obtainable until after the third month, unless in those very rare cases where the fœtal heart may be heard just at the end of this time. The evidence obtainable before this date only enables us to come to the conclusion that pregnancy is *probable*. The signs (probable ones) of pregnancy up to this time are—suppression of the menses, swelling of the breasts,

descent of the lower part of the uterus in the pelvis, flattening of the abdomen. An examination will not usually enable us to give a positive opinion, if undertaken at this time.

After the end of the third month, during the fourth and fifth, an abdominal and a vaginal examination give, or may give, decisive indications. Menstruation is still absent in ordinary cases; the breasts continue to enlarge, and the areolar changes become developed; the os uteri undergoes its characteristic changes; the uterus can be felt to be enlarged from the vagina and above the pubes; the vagina assumes a dusky hue; the motions of the fœtus can be felt by the observer and by the patient; ballottement is recognisable; the sounds of the fœtal heart can be heard.

After the first month, and up to the end of pregnancy, the symptoms just described *continue*, and become intensified.

The signs of pregnancy may be arranged under two classes—1. The certain; and 2, the probable.

1. *The certain signs of pregnancy are:*—The active movements of the child unequivocally felt by another; the presence of the child *in utero* ascertained by ballottement; the sounds produced by the pulsations of the fœtal heart.

2. The *probable signs of pregnancy* need not be enumerated.

Art. 243.—*On Turning in Contracted Pelvis.*

By Robert Barnes, M.D., Fellow and late Examiner in Midwifery at the Royal College of Physicians; Obstetric Physician and Lecturer on Midwifery and the Diseases of Women and Children at St. Thomas's Hospital.

(*Medical Times and Gazette*, September 5, 1868.)

The value of turning in moderate degrees of pelvic contraction rests greatly upon the truth of the following proposition:—*The head will come through the pelvis more easily if drawn through base first, than if by the crown first.* Baudelocque affirmed this proposition ("L'Art des Accouchements"). He said—"The structure of the head is such that it collapses more easily in its width, and enters more easily when the child comes by the feet, if it be well directed, than when it presents head first." Osiander had maintained the same opinion. Hohl (1845) also pointed out that the bones overlapped more readily at the sutures when the base entered first. Simpson (1847) insisted strongly upon the truth of this proposition, and illustrated the mechanism of head-last labours with much ingenuity. The proposition has, however, been disputed, and that by Dr. M'Clintock (*Obstetr. Transact.* vol. iv. 1863). He says—"I do not believe that the diameters of the head are more advantageously placed with regard to those of the pelvis, nor can I believe that the head is more compressible when entering the strait with its base, than when it does so with its vertex, till this be demonstrated by direct experiment."

It is also contested by Professor E. Martin, of Berlin (*Monatsschr. f. Geburtsk.* 1867). He especially insists that when the vertex presents moulding may go on safely for hours; but that if the base come first the moulding must be effected within five minutes to save the child.

I venture to submit that I have made such clinical observations as are equivalent to direct experiments. In the first place, let me state a fact which I have often seen. A woman with a slightly contracted pelvis, in labour with a normal child presenting by the head, is delivered after a tedious time spontaneously or by the help of forceps; the head has undergone an extreme amount of moulding, so as to be even seriously distorted. The same woman in labour again is delivered breech first; the head exhibits the model globular shape, having slipped through the brim without appreciable obstruction. For examples see my outlines of heads (*Obstet. Trans.* 1866).

In the second place, I have on several occasions been called to an obstructed labour in which the head was resting on a brim contracted in the conjugate diameter. Of course, Nature had failed; the *vis a tergo* was insufficient. I have tried the long double-curved forceps, trying what a moderate compressive power aided by considerable and sustained traction would do to bring the head through, and have failed. I have then turned, and the head coming base first has been delivered *easily*. Upon this point I cannot be mistaken. And I think this greater facility can be explained. Dr. Simpson has illustrated by diagrams how the head, caught in the conjugate at a point below its bi-parietal diameter, is compressed transversely as traction force is applied below, causing the mobile parietals to collapse and overlap at the sagittal suture. And surely no one can doubt that the traction power, and therefore the compressing power, acquired by pulling on the legs and trunk, is infinitely greater than can be exerted by the strongest forceps. But there is another circumstance in the clinical history of head-last labours in narrow conjugate which affords a remarkable illustration of this proposition. *The head is rarely, or never, seized in its widest transverse diameter; it is seized by the conjugate at a point anterior to its greatest width—that is, in the bi-temporal diameter:* the bi-parietal and occiput commonly finding ample opportunity for moulding in the freer space left in the side of the pelvis behind the promontory. The head, in fact, fits or moulds into the kidney-shaped brim wherever there is most room. I have given illustrations of this point also in the memoir referred to (*Obstet. Trans.* 1866). I think, therefore, it may be taken as demonstrated, that the head coming base first passes the contracted brim more easily than coming crown first. And if the head comes through more easily, it may be inferred that the child will have a better prospect of being born alive.

Can we define with any precision the conditions as to degree of pelvic contraction that are compatible with the birth of a living child? The question is not easy to answer; nor is it important to be able to answer it very precisely. The great fact upon which the justification of the operation rests is this: many children have been delivered by it alive, with safety to the mother. We know accurately only one element of the problem—namely, the degree of contraction of the pelvis. The other

element, the relative size and hardness of the fœtal skull, we can but estimate. *We must assume, in many cases, a standard head.* With this assumption the practical question is reduced to this: *What is the extreme limit of pelvic contraction justifying the attempt to deliver by turning?* In other words this means: What is the narrowest pelvis that admits of the passage of a normal head? This is answered chiefly by experience. It is not to be answered by *à priori* reasoning like that urged by Dr. Fleetwood Churchill, who says, even in his last edition ("Theory and Practice of Midwifery," 1866):—"The bi-mastoid diameter in the six cases measured (by Dr. Simpson) varied from $2\frac{6}{8}$ to $3\frac{2}{8}$ inches, and a living child can pass through a pelvis of $3\frac{2}{8}$ inches antero-posterior diameter, with or without the forceps. With a pelvis of this size, then, the operation is unnecessary; and if the antero-posterior diameter be less than $2\frac{6}{8}$ inches, the operation would be impracticable. These, then, are the limits of the operation; for us to attempt to drag a child through a smaller space would be unjustifiable."

To this statement of the case serious objections may be taken. The proposition that a living child can pass through a pelvis with an antero-posterior diameter measuring 3·25″, with or without the forceps, can only be accepted with considerable qualifications. I claim to speak with confidence drawn from large experience when I say, that a head of standard proportions and firmness will hardly ever pass a conjugate reduced to 3·25″ without the forceps, and very rarely indeed with the forceps—that is, alive. I might even extend the conjugate to 3·50″, and affirm the same thing. The compressive power of the forceps, unless very long sustained, is not great, rarely great enough to reduce a bi-parietal diameter of 4·00″ to 3·50″ without killing the child. My opinion, then, is that a standard head, especially if it happen to be a female head, which is more compressible than a male one, *may be* drawn through a conjugate of 3″, but not with much prospect of life; and that the proper range of the operation of turning is from 3·25″ to 3·75″, at the latter point coming into competition with the forceps. I believe no one advocates resort to turning when the conjugate measures less than 3″.

A correlative proposition to the foregoing is the following:—*Compression of the head in its transverse diameter is much less injurious to the child than compression in its long diameter.* The truth of this is attested or admitted by most authors who have considered the point. It is insisted upon by Radford, Ramsbotham, and Simpson. It is confirmed by the observation of the form which the head assumes under moulding in natural labour, which, as I have shown, is effected by the lengthening of the fronto-occipital diameter and the shortening of the transverse diameter. (*Obstet. Trans.* vol. vii. 1866, and *Medical Times and Gazette*, vol. ii. 1867.)

Now, it is an almost necessary consequence that when the head arrested on a contracted brim is seized by the forceps, it is seized by its fronto-occipital diameter, and to the longitudinal compression is added the increased obstruction to the entry of the head into the narrowed conjugate caused by the lateral bulging.

We will now discuss the question—What is the penalty incurred, or how can we retrieve our error, if we turn and fail to bring the head

through the too contracted brim? Undoubtedly, the patient will have to go through a second operation. We are driven to perforate after all. We have tried to save the child, and have failed. Is the mother imperilled by this attempt and failure? This also must be answered by experience. Of course, the mother may suffer if we persevere in dragging the child too long and too forcibly. But we have a right to assume that the attempt is controlled by skill and discretion. The amount of force that can be safely endured is very great—far greater than those who have never seen the operation would readily credit. The violence to which the soft structures are subjected seems to be small in proportion to the traction-force exerted. There appears to be some saving or protective condition. This, I think, is found in the mechanism of the process. I refer to Lecture V. (*Medical Times and Gazette*, November, 1867) for an illustration and description of the mechanism of labour in contraction of the pelvis from projection of the promontory. This projecting promontory forms the centre of rotation around which the head must rotate in order to enter the pelvic cavity. The side of the head applied to this point scarcely moves at all. The promontory catches the fœtal skull in the fronto-temporal region. If the coarctation be decided, the skull where it is caught bends in. All the onward movement is effected by the opposite or pubic side of the skull sweeping in a circle, which I have called "the curve of the false promontory," until the equator or greatest circumference has passed the plane of the brim, when the whole head slips into the cavity with a jerk. Now, injurious pressure is avoided on the pubic side by the smoothness and flatness of the inner surface of the pelvic brim, and by a gliding movement of the soft parts intervening between the head and the bony canal. Injurious pressure is avoided over the promontory by the yielding or moulding of the head. The temporal and parietal bones will bend in, even break. Children have been born alive after this bending or breaking. Sometimes a large cephalhæmatoma forms at the point of depression. In other cases the child perishes. The observation of these cases shows that the mother will bear with safety an amount of pressure which was sufficient to kill the child.

What follows? This obvious corollary—that the mother will safely bear that lesser degree of pressure which is required to bring through a living child.

The operation, then, is justified in cases of contraction that admit of the passage of a living child. It is further justified in cases of contraction to a certain, though small, degree of contraction beyond this, which admits of the passage of a dead child. We have here, perhaps, carried the experiment to the verge of what is justifiable. Beyond this, there being no possibility of getting a child, live or dead, through the pelvis, it would of course be better not to go. And if all the conditions of the problem could be precisely ascertained beforehand, we should not go beyond this. But, whilst calculating upon an average or standard head, we may encounter a head above the standard in size or hardness, and thus, in our endeavour to save the child, we may find ourselves in a difficulty. The extrication is by perforation. By lessening the head, it is brought within the capacity of the pelvis. This is,

indeed, an acknowledgment of defeat; it is beating a retreat. The justification, however, is that we accomplish in the end exactly that which those who reject the operation accomplish—namely, the safety of the mother. We have tried to do more—to save the child as well.

Art. 244.—*On the Mechanism of Turning, and on Turning in Cases of Contracted Pelvis.*

By Dr. Scharlau.

(*Monatsschrift für Geburtskunde*, May, 1868; and *Schmidt's Jahrbücher*, No. 9, 1868.)

During four years' practice at a lying-in institution, Dr. Scharlau has performed turning in 61 cases by internal, and in 3 cases by external manipulation, in the latter cases twice upon the buttock and once upon the head; all three children survived. The internal turning was made in every instance upon the pelvic extremities, 58 times with one, and 3 times with both feet. The following were the indications in the 61 cases of internal turning:—44 times a cross position, once after a previous attempt at forceps, extraction with a head placed high up, 8 times prolapsed funis with head presentation, once spontaneous rupture of uterus with expulsion of child into pelvic cavity, 5 times arrest of the head's progress on account of contracted pelvis and symptoms of contusion of the maternal parts, once protrusion of the extremities with the head, in two cases protrusion of the hand and umbilical cord with the head, once placenta previa, and once presentation of an ear giving rise to injury of the maternal parts. Of the 64 children, 50 were living before the turning; of these 43 were born alive, 7 only died during the operation. Five of the women died, 2 from metrophlebitis, and 2 from rupture of the uterus.

Scharlau prefers the side position to any other, and the turning by one instead of both feet; and in cross presentations by that foot, if possible, which belongs to the presented side of the child. The woman should always be placed upon that side to which during cross presentation the pelvic end of the fœtus, and during head presentation the abdominal surface, is directed. Kristeller recommends that with internal turning the foot should be seized which corresponds to the presenting side when the back of the child is directed forwards; and on the other hand, when the belly of the child is directed forwards, that foot which does not correspond. Although no objection may be raised against the theory of this recommendation, Scharlau still holds that it must be rejected as uncertain in practice, as no cases have occurred to him in which turning by the upper foot had failed in experienced hands, where the operation was not readily accomplished by seizing the lower one.

On basing the indications for turning with a contracted pelvis on the preservation of the life of the child whose vertex is presented, two important questions have to be considered; viz., in what way does the child sink in cases of head presentations with a narrow pelvis, and

what are the advantages offered by bringing the head last through a contracted pelvis? With regard to the first point, it may be stated that the early formation of a head tumour, which with labours prolonged for days often becomes colossal, and the hyperæmia and œdema set up by this, will frequently kill children before it is possible to apply the forceps, and after the time when the performance of turning seems no longer justifiable. In some cases indeed children are born still living, but in so low a condition that all attempts at restoring life are fruitless. It is the too long-continued labour after the rupture of the membranes that in cases of head presentation especially will thus cause the destruction of the child.

The advantages of bringing the head away last consists in the possibility of being able to place this, when unfavourably situated, in a better position, and also in the possibility of utilizing more efficiently the elasticity of the bones of the cranium. Not only does the bi-temporal diameter, in consequence of the union of the sutures, and of the thin osseous plates thus formed, undergo a considerable amount of compression; but also the bi-parietal diameter may by depression and bending of one or other parietal bones, be so reduced as to be capable of traversing the contracted conjugate of the pelvic inlet. This depression is always exerted at the anterior half of the parietal bone carried down in front of the promontory, but never, as Martin asserted, near the coronal suture at a considerable distance from the parietal protuberance; the protuberance itself may rather take part in the depression. In favourable cases the elasticity of the cranial bones is so considerable that they may be depressed, and return at once to their normal positions when the head has passed the contraction. In instances of this kind, one may perceive, during the progress of the following head, that the obstruction at the promontory is suddenly overcome; upon the scalp is often found a red mark of the pressure, formed by ecchymosis, which sometimes passes close to or even over the parietal tuberosity, so that by the course of this one may determine with certainty the manner of the passage of the head through the conjugate. Frequently a cephalhæmatoma is formed at the compressed part. In the majority of cases, room enough is readily found by the promontory to permit here the passage of the broad occiput, but the possibility of the passage with the bi-parietal diameter through the conjugate cannot exist.

Scharlau gives reports of twelve cases; in eight of these the life of the child was preserved (one child was already dead before the operation), and the mother in every case recovered; this result is to be considered in a more favourable light, from the fact that nearly all these women had previously been repeatedly delivered with difficulty of dead children. The following conclusions are based by Scharlau upon his recorded cases:—

1. By turning in a contracted pelvis children may be preserved who, with a head presentation, would probably have died after a long-continued labour, or with whom some reducing operation would have been required for the purpose of saving at the last the mother.

2. That shortening of the smallest pelvic diameter may fall to $7\frac{1}{2}$ centimetres, and yet a favourable result be produced by turning even a well-developed child.

3. Not only the bi-temporal but also the bi-parietal cephalic diameter may be so compressed, that a pelvis contracted in its conjugate even to 7·5 centimetres, may allow the passage of a well-developed living child followed by the maintenance of life.

4. In turning for the purpose of saving the child's life in head presentation, it is, though desirable, still not an indispensable condition, that the oblique diameter of the pelvis should be sufficiently great in order to allow the broad occiput to pass by the promontory.

The indications laid down by Martin for turning with the foot, in cases of contracted pelvis, are extended by Scharlau in accordance with the results of his own practice: when multiparæ with pelvic contraction of from $7\frac{1}{2}$ to 9 centimetres in the true conjugate, who have been repeatedly delivered with difficulty of dead children, when the head has been presented, and with whom probably some presentations of the pelvic extremities have given more favourable results, are in labour with a well-developed child, one is evidently justified in having recourse to turning for the purpose of saving the fœtal life, and even in cases where the oblique diameter of the pelvis is not normal in extent; in consequence of the proved possibility that the osseous parts of the cranium, including the parietal protuberances, can under certain circumstances be depressed without damage,—it being presupposed that the efficient conditions for this operation are fulfilled.

Art. 245.—*A Case of Contracted Pelvis with Head and Foot Presentation; Turning and Craniotomy.*

Under the care of Dr. Graily Hewitt, of the University College Hospital.

(*The Lancet*, Oct. 31, 1868.)

The following interesting case is of recent occurrence. For the report of it we are indebted to Mr Frederick White.

The patient, Mrs. B——, aged thirty-three, is small in stature, thin, and not a strong woman. Has had two children previously. The first was born dead on Oct. 4th, 1865, after she had been four days in labour. No instruments were used. There has been considerable laceration of the perineum, which probably took place in the first labour. The second child was born July 18th, 1867; the labour had lasted three days, and it appears that craniotomy was performed.

Mr. White was sent for at 1.15 A.M. on Oct. 6th, and on examination found the os uteri dilated to the size of a shilling, the patient having been in labour since 7 P.M. of the previous evening. At 3 A.M. the membranes ruptured spontaneously, the os uteri not being fully dilated. Previously to the rupture of the membranes Mr. White was unable to make out the presentation, but he then found that the head was presenting in the first position on the left side, and both feet were down on the right side, the right foot being lower than the left.

Mr. White at once sought the assistance of Mr. Mason and Mr. Hodgson, the obstetric assistant, who arrived at 4 A.M. Mr. Hodgson tried to reduce the feet; but was unable to do so, for the moment they were pushed back they immediately returned to their original position. He then decided to turn, and brought down the feet and body of the child in the abdomino-anterior position. There was then very considerable difficulty in bringing down the arms. The left arm was placed right across the back of the head, and the right was stretched out above the head. The left was brought down first, the right soon following. An attempt was then made to rotate the body; but when slight rotation had been affected, the head became fixed in the brim of the pelvis, the face looking towards the left sacro-iliac synchondrosis. Traction was employed for some time without any effect; and then the long, straight forceps were used. Mr. Hodgson succeeded in getting one blade on; but failed in attempting to apply the second. Dr. Graily Hewitt was then sent for, who, on finding the head fixed in the brim, decided upon perforating the head. The child had been dead for some time. The head was perforated just behind the mastoid process on the left side. There was some difficulty in doing so, from the thickening of the bones. At 7.30 the child was born. A considerable gush of blood followed along with the placenta, as the placenta had probably been separated for some time before delivery. Subsequently some difficulty was experienced in getting the uterus to contract, and three-drachm doses of the tincture of ergot were given; but, as the uterus did not very firmly contract, some powdered ergot was given also. Cold was applied to the abdomen, and pressure used from the first. At 8.30 A.M. all hæmorrhage had ceased, the uterus was contracted, and the patient was left. During the whole of the latter part of the labour, brandy and laudanum were freely administered. On the 8th of October the patient was doing well. A fortnight after the labour the patient was well enough to resume her household duties.

In reference to the above interesting case, Dr. Graily Hewitt observed that the pelvis was contracted, probably by as much as one inch, in the conjugate diameter; and that in a future occasion it would be proper to induce labour at eight months. The shape of the brim was such—wide at the sides, and contracted in the middle—that it allowed, and doubtless was the cause of, the unusual presentation—viz., that of the head on one side, and the feet on the other. Another point illustrated by this case was this:—In cases of pelvic contraction the uterus was often too large just after the labour, even when properly contracted, to descend into the pelvis; and it was hence sometimes erroneously supposed that it was inefficiently contracted. In the course of twenty-four hours, however, the size so diminished that—unless the pelvic deformity be excessive—this organ resumes its proper position, and is no longer so obvious to the touch in the hypogastric region.

Art. 246.—*On Turning in Narrow Pelvis.*

By Dr. Strassmann.

(*Monats. f. Geburtsk.*, June ; and *British and Foreign Medico-Chir. Review*, October.)

Dr. Strassmann shows by cases that turning in narrow pelvis may give successful results, even when the greatest or bi-parietal diameter of the child's head is caught in the narrowed conjugate, and that it is therefore not essential in performing the operation to take care that the occiput shall fall into the wider half of the pelvis. He says it is difficult or impossible to secure that the occiput shall so fall. In one case he delivered with great difficulty a child, which died soon after birth, by the forceps through a pelvis the conjugate of which measured 2·75″, although the occiput came through the wider half of the pelvis; in the second labour he delivered the same woman of a live child which survived by turning, although the occiput came through the smaller half of the pelvis. Three other cases illustrate the same point. In all four cases the conjugate gave at the utmost 3″. Three children were born alive, one having died from prolapsus of the funis before turning. Strassmann insists much upon the importance of aiding the extraction of the head, by pressing upon the head through the abdomen externally.

Art. 247.—*Turning when Liquor Amnii has run off, the Uterus being contracted upon the Child.*

By Robert Barnes, M.D.

(*Medical Times and Gazette*, June 20, 1868.)

So long as there is any liquor amnii present in the uterus, and often for some considerable time afterwards, the bi-polar method of turning is applicable. But a period arrives when it becomes necessary to pass a hand fairly into the uterus in order to seize a limb. We will now discuss the mode of turning under the more difficult circumstances of loss of liquor amnii, more or less tonic contraction of the uterus upon the child, and descent of the shoulder into the pelvis.

The contraction of the uterus, necessarily concentric or centripetal, tends to shorten the long axis of the child's body. The effect is to flex the head upon the trunk, and to bend the trunk upon itself, reducing the ovoid to a more globular form. This brings the knees nearer to the chest, but does not diminish the difficulty of turning.

I need not pause again to discuss minutely preparatory measures. It is only necessary here to call to mind that chloroform or opium is especially serviceable, and that it is important to empty the bladder and rectum.

The first question to determine is, *Which hand will you pass into the*

uterus? I have given some of the reasons why the left hand should be preferred, in Lecture XII. (see *Medical Times and Gazette*, May 2, 1868). In the majority of cases the child's back is directed forwards; to reach the legs, which lie on the abdomen, your hand must pass along the hollow of the sacrum, and this can hardly be done, the patient lying on her left side, with the right hand, without a most awkward and embarrassing twist of the arm. I need scarcely point out how violent and unnatural a proceeding it would be to pass up the right hand between the child's back and the mother's abdomen, to carry the hand quite round and over the child's body in order to seize the feet, which lie towards the mother's spine, and then to drag them down over the child's back. If you attempted this, you would probably get into a difficulty. The child, perhaps, would not turn at all. To avoid this failure, the rule has been laid down to pass your hand along the inside or palmar aspect of the child's arm. This will guide you to the abdomen and the legs. Or the rule has been stated in this way:—Apply your hand to the child's hand, as if you were about to shake hands. If the hand presented to you be the right one, take it with your right hand, and *vice versa*.

Rules even more complicated are proposed, especially by Continental authors. Some go to the extent of determining the choice of hand in every case by the position of the child. The fallacy and uselessness of these rules are sufficiently evident from the disagreement among different teachers as to which hand to choose under the same positions. Rules, moreover, which postulate an exact knowledge of the child's position are inapplicable in practice, because this diagnosis is often impossible until a hand has been passed into the uterus; and it is certainly not desirable to pass one hand in first to find out which you ought to use, at the risk of having to begin again, and to pass in the other.

The better and simpler rule is this:—*In all dorso-anterior positions, lay the patient on her left side; pass your left hand into the uterus*—it will pass most easily along the curve of the sacrum and the child's abdomen; *your right hand is passed between the mother's thighs to support the uterus externally.*

In the case of *abdomino-anterior positions, lay the patient on her back, and you may introduce your right hand, using the left hand to support the uterus externally.* If the patient is supported in lithotomy position, you can thus manipulate without straining or twisting your arms or body. But it is equally easy to use the left hand internally if the patient is on her back, so that the exception is only indicated to suit those who have more skill and confidence with the right hand.

We will first take a dorso-anterior position. Introduce your left hand into the vagina, along the inside of the child's arm. The passage of the brim, filled with the child's shoulder, is often difficult. Proceed gently, stopping when the pains come on. At the same time support the uterus externally with your right hand. Sometimes you may facilitate the passage of the brim by applying the palm of the right hand in the groin, so as to get below the head and to push it up. This will lift the shoulder a little out of the brim. Or you may practise a manœuvre attributed to Von Deutsch, but which has been practised by Leveret. This consists in seizing the presenting shoulder or side of the

chest by the inside hand, lifting it up and forwards, so as to make the body roll over a little on its long axis. This may be aided by pressure in the opposite direction by the outside hand on the fundus uteri, getting help from the bi-polar principle.

Sometimes advantage is to be gained by placing the patient on her elbows and knees. In this position you are favoured by gravity, for the weight of the fœtus and uterus tends to draw the impacted shoulder out of the brim.

The brim being cleared, your hand passes onwards into the cavity of the uterus. This often excites spasmodic contraction, which cramps the hand, and impedes its working. Spread the hand out flat, and let it rest until the contraction is subdued. In your progress you must pass the umbilicus, or a loop of umbilical cord will fall in your way. Take the opportunity of feeling it to ascertain if it pulsates. You thus acquire knowledge as to the child's life. But you must not despair of delivering a live child because the cord does not pulsate. I have several times had the satisfaction of seeing a live child born where I could feel no pulsation in utero. You are now near the arm and hand. They are very apt to perplex. Keep, therefore, well in your mind's eye the differences between knee and elbow, hand and foot, so that you may interpret correctly the sensations transmitted by your fingers from the parts you are touching.

At the umbilicus you are close to the knees. The feet are some way off at the fundus of the uterus applied to the child's breech.

What part of the child will you seize? It is still not uncommon to teach that the feet should be grasped. You will see pictures copied from one text-book to another, representing this very unscientific proceeding. There ought to be some good reason for going past the knees to the feet, which are further off and more difficult to get at. Now, I know of no reasons but bad ones for taking this additional trouble. You can turn the child much more easily and completely by seizing one knee. Dr. Radford insists upon seizing one foot only for the following reason:—The child's life is more frequently preserved where the breech presents than where the feet come down first. A half-breech is also safer than cases where both feet come down. The dilatation of the cervix is better done by the half-breech. The circumference of the breech, as in breech presentations, is from twelve to thirteen and a half inches, nearly the same as that of the head; the circumference of the half-breech, one leg being down, is eleven to twelve and a half inches; whilst the circumference of the hips, both legs being down, is only ten to eleven and a half inches.

But a knee is even better than a foot. You determine, then, to seize *one* knee; which will you choose? The proper one is that which is furthest. The reasons are admirably expressed by Professor Simpson. We have a dorso-anterior position—the right arm and shoulder are downmost—these parts have to be lifted up out of the brim. How can this be best done? Clearly by pulling down the *opposite* knee, which, representing the opposite pole, cannot be moved without directly acting upon the presenting shoulder. If the opposite knee be drawn down, and supposing the child to be alive, or so recently dead that the resiliency of its spine is intact, the shoulder must rise, and version will be

complete, or nearly so. But if both feet are seized, or only the foot of the same side as the presenting arm, version can hardly be complete, and will, perhaps, fail altogether.

Art. 248.—*The Best Methods of Expediting Natural Labours.*

By W. H. Davies, M.D.

(*California Medical Gazette*, July.)

The agencies at our command for expediting natural labours, Dr. Davies classes as remedial and operative. Of the former, ergot, opium, tartar emetic and borax are highly esteemed; while of the latter, mechanical dilatation, the warm water douche, scarification of the cervix, venesection, &c., are each applicable under certain circumstances. First among the remedial agents that has long been held in high repute, stands ergot. Borax has been found in Germany of great use, and when combined with ergot is sometimes satisfactory in its action. Opium in many cases is a powerful uterine stimulant, and has the merit of being a safe one; but the best effects in the majority of cases will be obtained from the judicious use of tartar emetic. This remedy will always be found of the greatest service when the os is dry, hot and rigid, while at the same time the pains are severe and regular, but producing no advance of the head. Given in doses of from one-sixth to one-eighth every fifteen minutes until nausea and vomiting are produced, it will rarely, Dr. Davies says, be found to fail in producing free dilatation of the os, copious mucous discharge, and regular effective pains. Of course, cases will sometimes occur where its use is contra-indicated, but for general service we possess no remedial agent so steadily reliable. Of all the operative methods, none so recommend themselves to Dr. Davies's mind, as most generally safe and effective, as the warm cervical douche and Dr. Barnes' water-bags.

Art. 249.—*On the Indications presented by Faulty Conditions of the Pelvis.*

By Professor Depaul.

(*Gazette Hebdomadaire*, No. 27, 1868.)

The inconveniences and dangers which are associated with the existence of an abnormally large pelvis are almost completely withdrawn, during the course of pregnancy, from the influence of any active measures. Relative repose and the use of an abdominal girdle are almost the sole means that can be recommended. But during delivery they may be prevented by opposing a too rapid termination of

labour. With this idea one ought, from the first manifestation of the pains, to recommend the woman to keep in the horizontal position, and not to do anything that might favour the return of the uterine contractions; that is, to abstain as much as possible from all movements tending to bring about expulsion. Whenever, in spite of these precautions, the labour proceeds rapidly, a too sudden progression of the fœtus should be opposed by the hand and fingers. In the same way one may remedy the sinking of the inferior segment of the uterus, in cases where there is a tendency for this part to come down through the orifice of the vulva.

As will be readily anticipated, the indications with relation to contractions of the pelvis are of much greater importance than the preceding, by reason of the frequency and much greater gravity of the symptoms set up by these osseous lesions. Unfortunately surgery is still powerless in remedying long-standing malformations of the pelvis, so that the treatment of these conditions is essentially prophylactic, and consists in preventing, as much as possible, their development. It is with this aim that every rachitic infant ought to be kept—particularly if it be a female—in the horizontal position, so that the lower limbs and pelvis may not be influenced by the weight of the upper part of the body. It is only gradually, and as the bones acquire more consistency and solidity, that the patient can be allowed to walk and to maintain the vertical or seated position. Notwithstanding the actual inconvenience resulting from too prolonged repose, the remote dangers which result in cases of little girls, from considerable contraction of the pelvis, are so serious, that it is generally advantageous to adopt the practice just recommended; that is, to prescribe the horizontal position during the whole time when the bones remain flexible, feeble, and susceptible of undergoing deformity under the influence of a certain amount of pressure.

With regard to delivery, narrowing of the pelvis presents varying indications aceording to its degree, its seat, its nature, and the many circumstances accompanying it. If the case is one, for example, of contraction from osteomalacia, the employment of the forceps or version might be indicated; although it would be necessary to have recourse to some other operation, supposing the case to be one of a rickety pelvis. In osteomalacia the bones often retain a suppleness and flexibility which they do not present when rickets has been the cause of the faulty conformation. In the obliquely oval pelvis the fœtus may be readily extracted by version, when it would be impossible to do this with the forceps. This result is explained by the favourable position of the child's head, which corresponds, in the one case, by its greater diameter to the greater diameter of the pelvis; whilst in the other its largest part is applied to the most contracted portion of the canal.

Among the contractions of a rachitic origin, those which are seated in the inferior opening do not rigorously indicate the same practice as those involving the abdominal opening. Finally, in similar conditions of faulty conformations, that is to say, when they seem to resemble one another with regard to seat, nature, and the configuration of the contraction; the more or less advanced stage of pregnancy, variations in the size of the fœtus, its state of life or death, the presentation, and the more or

less regular position, the degree of reducibility of the head, and also, on the part of the mother, the more or less powerful and sustained contractions of the uterus, the more or less energetic efforts of expulsion, a variable inclination of the pelvis, and a greater or less amount of laxity of the symptoms—are so many circumstances which may change the results of labour to such a degree, that the indications derived from pelvic contractions are themselves susceptible of considerable modification. One sees, then, that in delivery faulty conformation forms but one of the elements in the problem, and that the practical indications in connexion with it are very subject to variations. Without doubt, the difficulties of labour generally bear relation to the extent of the osseous deformity; but what it is intended to assert is, that to this rule there are exceptions.

Professor Depaul has recently observed a proof of these assertions in a case where a fœtus of seven and a half months, whose bi-parietal diameter measured eight centimetres, was made to traverse, by the aid of a simple application of the forceps, the inlet of the pelvis, which measured not more than six and a half centimetres in its sacro-pubic diameter. This infant was born living, and fifteen days after its birth was in full health. Facts of this kind, which have been reported by Baudelocque, Martin of Lyons, and others, are well known, though it is unnecessary to recall them. If such examples are rare, by reason of the great relaxation which the head has had to undergo before traversing the contracted canal, it is not so when the narrowing is less marked, for then the exceptions become pretty frequent. The question, then, of the obstetrical indications relating to contractions of the pelvis is a very complicated one, and its solution consequently appertains much more to distocia in general, than it does to the exclusive study of the vices of conformation of the pelvis itself. On this account Professor Depaul confines himself, in his Memoir, to adding a very summary exposition of the most essential indications that may be offered by contractions of the pelvis, either during pregnancy or in the course of labour.

Two very different conditions may be presented. In one, the female who is the subject of faulty conformation of the pelvis has reached the period of pregnancy when the interference of the practitioner is required. In the other, several months have to intervene. Professor Depaul, in his subsequent remarks, deals particularly with faulty conformations resulting from rickets, which affect especially the superior opening of the pelvis.

1. Pregnancy at full term, or very nearly so. It is convenient to establish three great divisions:—

(*a*) When the pelvis is *at least nine centimetres* in its antero-posterior diameter. If the head be presented when the dilatation of the os is complete, and the membranes are ruptured, it is necessary to keep the parts open during the uterine contractions, and to wait for some hours. If the action of the uterus seems to be feeble, one may attempt to increase it by a small dose of ergot; and in all cases it is necessary to pay careful attention to the fœtal circulation, and to intervene more or less quickly with the forceps, according to the results of auscultation.

If there is a tendency for the face to present, the course to pursue is always the same as that indicated by an anterior mental presentation;

but if the chin be directed backwards, and it becomes necessary to act, attempts should be made to move the head, and to convert the face presentation into one of the vertex. In cases of presentation of the pelvic extremity, there will be great indications for resorting to cephalic version by external manipulations at the commencement of labour, and before the membranes are ruptured. If this result cannot be obtained, it will be necessary to pay careful attention to the delivery of the trunk, and to the disengaging of the shoulders and head, which should be brought about as quickly as possible, for the interest of the infant.

But it is with presentation of the shoulder especially that efforts ought to be made for the purpose of bringing the head to the superior opening of the pelvis. It is necessary to act in good time, and if possible before the discharge of liquor amnii. Then, if it be necessary, the forceps might be applied. If the attempt be unsuccessful, nothing remains but pelvic version, and if this be impracticable, section of the neck, or some other proceeding of embryotomy, must be resorted to.

(*b*) In this division may be ranged all pelves between six and nine centimetres. Two cases may be presented: the infant has already succumbed before the practitioner is called to the woman, or its life is not yet in danger. With the first supposition, if the head be presented, labour may be allowed to proceed until there is complete dilatation; the membranes may then be ruptured, and the cranium perforated. This practice alone will sometimes be sufficient for allowing the descent of the head. If not, the forceps is generally applied if the pelvis approaches in size to nine centimetres; if the size approach the lower limit, six centimetres, the cephalotribe should be preferred.

With the second supposition, on the contrary—that is to say, when the infant is full of life—it is necessary, in order to appreciate properly the different cases, to make a subdivision, which will separate pelves which are at the least six, and at the most seven and a half centimetres in extent, from those in which the extent varies between the latter limit and nine centimetres. With a vertex presentation, complete dilatation, and ruptured membranes in the second instance, it would be proper to allow the natural efforts to proceed uninterrupted, so long as there is no injury threatened to the mother or child. Then the forceps should be applied, and if the first attempt be fruitless, be again repeatedly resorted to at intervals of one or several hours. This practice, which has been recommended by M. Dubois, has the advantage of saving at once the strength of the mother and the life of the child. Experience teaches that what one is unable to perform at a first attempt, becomes possible in certain cases after a second or third intervention. Besides this method, there is no other resource save expectation, or some severe proceeding which implies the death of the child. Professor Depaul is of opinion that the latter ought to be taken into serious consideration, and that conservative efforts ought to be made with very wide limits.

In presentations of the face, pelvic extremity, or trunk, the course to pursue will differ but slightly from that already traced out in paragraph (*a*). Only, the obstacle being much greater, we should, all other

conditions being equal, expect more serious difficulties, and less happy results.

In pelves of seven and a half centimetres and more, and at least six centimetres, the chances of the infant living will necessarily be diminished, as the lowest inferior limit is approached; the question is then presented of the Cæsarian operation, or embryotomy, the forceps having previously been employed to no purpose. In order to decide this point, Professor Depaul thinks that it is necessary to take into consideration the wish of the patient and her family, to whom the situation of things should be explained, without dissimulating in any way concerning the gravity of these two modes of intervention. But when the pelvis is nearer the superior than the inferior limit of size, M. Depaul asserts that he would act independently for the interest of the woman, and that after having made for that of the infant every conservative effort authorized by prudence and demanded by the value attached to its life, he would not hesitate to resort to craniotomy, or to some other proceeding of embryotomy, as the circumstances indicated.

(*c*) In this division are included cases of extreme narrowing of the pelvis, that is to say, those in which the distance between the pubis and the sacro-vertebral angle is not more than a few millimetres or six centimetres at the most.

Be the child living or dead, when the antero-posterior diameter of the abdominal passage is found to be four centimetres at the most, or below its extent, there can, Professor Depaul thinks, be no tergiversation. The only means of delivering the woman consists in the Cæsarian operation. A cruel resource, it must be allowed, and particularly so in those cases where the death of the child being known beforehand, no compensation is to be offered with regard to the very great dangers the woman has to go through.

But when the pelvis is not so contracted, and measures between four and six centimetres, Professor Depaul thinks that it is necessary before acting to inquire whether the child be dead or living. In the former case, he would not readily decide upon the Cæsarian operation, but would give the preference to embryotomy in spite of its difficulties and actual dangers. In the second case, of a living child, he would, relying upon the almost complete certainty of removing a child living and viable, hold himself authorized in submitting the woman to the Cæsarian operation, taking precautions to place her under the most favourable conditions for assuring a successful result.

2. The second class is that of cases in which the woman has not reached the full term of pregnancy.

When the subject of a contracted pelvis requires medical advice whilst she has to pass over several months before attaining the full term of her pregnancy, the resources of the obstetrician are considerably extended, and fresh indications arise which one is happy in being able to fulfil. These are indicated by Professor Depaul as follows, the three divisions previously established being again followed.

(*a*) If the contraction of the superior passage be between nine and eleven centimetres, it is advisable, Professor Depaul thinks, to allow the pregnancy to proceed until the full term, particularly if the woman

be a primipara, and nothing can be learnt as to the probable weight of the child. The uterine contractions will in most cases readily overcome any obstacles, and if not, a simple application of the forceps will generally be sufficient. But if it has been proved by previous pregnancies that the woman is unfortunate in conceiving children of a large size, it would be better to anticipate by two or three weeks the term of delivery, or to intervene at an early period of pregnancy by subjecting her to a lowering regimen, and performing several venesections, a method which has been frequently followed in Professor Depaul's practice by good results.

(*b*) Pelves which correspond to the second division (between six and nine centimetres) necessitate the employment of the latter means in a much more imperious manner. The success of artificial premature delivery is no longer doubted at the present day. This modern conquest of the obstetric art, which at first was not naturalized in France without some difficulty, is not accepted by all. It is in those cases particularly where the contraction is between seven and nine centimetres that its application is most useful. The most common rachitic contractions oscillating between these two limits supply pretty numerous opportunities for its application. The obstetrician of course acts at a sooner or later period, according to the greater or lesser amount of contraction.

The method of a lowering regimen combined with blood-letting, when vigorously carried out at the fourth or fifth month of pregnancy, may allow us to wait until the normal termination of pregnancy, provided the antero-posterior diameter be at least eight centimetres. Below this limit it may still be of service by enabling us to delay bringing on labour, and so to make more sure of the viability of the child. It has been proposed to moderate the development of the child by subjecting the mother to a treatment with iodide of potassium. Professor Depaul has had no personal experience of this treatment, and can give no opinion concerning its real value. Conclusive facts are still wanting, and it is to be feared that the results of experience are not conformable to those anticipated by theory.

(*c*) The most delicate and most difficult questions for consideration, are presented with pelves of the third division, by those in which the sacro-pubic diameter is not more than six centimetres. If the pregnancy be allowed to proceed until the full term, no other resource remains but the Cæsarian operation, which is almost equivalent, at least in great centres of population, to the death of the woman. If the course of the pregnancy be arrested at the end of the seventh month, or during the eighth, the obstetrician will almost certainly fail in attaining the double aim intended by the provocation of delivery, for in addition to the almost inevitable death of the child during the necessary manœuvres for its extraction, the mother herself will also run the greatest danger, and often lose her life.

What resource then remains in cases of this kind? Professor Depaul thinks there is but one: to sacrifice the life of the child by procuring abortion at an early period. He knows that this question may be discussed on grounds of morality, religion, and science, and answered in different ways according to the principles which are placed in the fore-

ground. But after long and serious reflection, Professor Depaul has not hesitated to do for others in certain cases that which he would desire to be done for his own wife or daughters, were they placed in conditions similar to those now discussed.

In certain cases the pelvis is narrowed by the presence of a tumour developed or situated in its cavity. The indications to be fulfilled for the treatment of these obstructions will vary with numerous circumstances. If the case be one of a cystic growth, as of the ovary, for example, it is necessary to know that Nature has great resources, and that the tumour after having occupied, for a longer or shorter period, the upper passage and part of the cavity of the pelvis, may at last be moved and displaced by the progressive development of the uterus. Professor Depaul has observed several cases in which this fortunate termination was noticed. But this does not always occur; the obstruction may persist, and necessitate some course of action. It is then easy to intervene with a simple plan of treatment, which consists in emptying the cyst or cysts by making a puncture, either by the abdomen, or by the vagina, or even in some cases by the rectum.

It may also be necessary to have recourse to puncturing for certain cysts which are sometimes observed in the anterior wall of the vagina, near the entrance of the canal, or in the recto-vaginal partition. These, however, are rarely of such a size as to form any serious obstacle.

Obstructions from fibrous tumours are much more serious. The growths which spring from the lower part of the uterus are especially dangerous, since they are developed into considerable proportions during the course of the pregnancy; they then descend into the pelvic excavation, become moulded to all the irregularities, and locked in such a manner that they cannot be elevated or forced away. When one is called to a case of this kind, with pregnancy at its full term, it is evident that the Cæsarian operation alone will render delivery possible.

Besides the fibrous tumours developed on the outer part of the uterus and in connexion with the peritoneum, to which the preceding remarks refer, there are others which, following a different course, and after having escaped from the interior of the uterus, to which they are still attached by a pedicle, take up a position in the vagina, and occupy the pelvic cavity to a greater or less extent. In these cases the gravity of the situation is not so great. It is no longer a question of a Cæsarian operation, but rather of extirpation of the tumour when it forms any serious obstacle.

These fibrous bodies are sometimes recognised long before the full term of pregnancy, and may then become the source of special indications. Some years back, Professor Depaul was called in to visit a young woman who had attained the tenth week of her first pregnancy, and who was suffering from formidable symptoms which threatened her life (arrest of fæces and urine, tenesmus, and incessant fruitless efforts at expulsion). On examination a fibrous tumour of the uterus was recognised engaged to the pelvis, which was so completely filled up that it was impossible to pass a gum-elastic sound into the rectum. The uterus was much elongated, and pushed up into the abdominal cavity; its elevated neck was only reached after great difficulty through a narrow space which existed along the rectum. Professor Depaul, having

assured himself after a very careful examination that the life of the woman was in danger, advised artificial abortion. He thought, however, that the patient might wait for two or three days, and returned home. Two hours had scarcely elapsed before he was recalled by the family and medical attendants of the patient. The situation was extremely critical, and death imminent.

A sound was introduced into the cavity of the uterus, and a piece of the ovum removed. Labour quickly declared itself, and some hours afterwards the fœtus was expelled, completely flattened. The bad symptoms were almost immediately relieved, and the patient restored. Some months later she was again examined, and the tumour was felt considerably reduced in size—in fact, no larger than a small apple; its origin was close to the neck of the uterus, above the vaginal insertion.

It is almost unnecessary to state that under other circumstances tumours of this kind, and also some osseous and fibrous growths connected with the bones of the pelvis, might furnish indications for premature delivery. A very large vesical calculus might necessitate a previous extraction.

Art. 250.—*On the Decidua Menstrualis.*

By Dr. Hausmann of Berlin.

(*Monatsschrift f. Geburtskunde*, xxxi. 1868; and *Schmidt's Jahrbücher*, No. 6, 1868.)

1. The affection of women hitherto conceived to be a disturbance of menstruation, and designated dysmenorrhœa membranacea, is in all cases consecutive to sexual intercourse, and therefore never occurs in very young females.

2. The affection in question is nothing more than an abortion of the first few days or weeks, in which, after deficiency or destruction of the ovum, the uterine mucous membrane forming the decidua is expelled with pains.

3. The abortion and consecutive expulsion generally occur at a menstrual period, and may thus readily lead to a mistake of the true nature of things; but between the attacks there may be irregular and often prolonged intervals in the course of which menstruation is normal; the nature of the causal disturbances is then very clear.

4. Expulsion of the decidua generally follows in from six to twenty-four hours after the commencement of the bleeding, and sometimes even later; this process is preceded by pains, which may be frequently repeated when the abortion is thrown off in several pieces.

5. The various causes of this abortion and the consecutive expulsion of the decidua are still unknown, but all have probably the common result of producing a premature destruction of the ovum.

6. The so-called decidua menstrualis frequently occurs but once; sometimes it comes on during many years, and may, so long as the exciting cause persists, be presented at irregular intervals until the cessation of menstruation.

7. The catarrh of the uterine mucous membrane, the chronic metritis,

and the hysterical attacks observed in the subjects of dysmenorrhœa membranacea, are generally the results of this last affection.

8. The treatment divides itself into that proper for each instance of abortion, and that of the affection itself; the first is to be carried out according to the recognised rules; the latter consists in removing any prominent disease of the womb, and in enforcing an abstinence from sexual intercourse for several months.

Art. 251.—*A Case of Puerperal Peritonitis Arrested at its commencement by the Employment of Uterine Aspiration.*

By M. D. Guerin.

(*Gazette Hebdomadaire*, No. 39, 1868.)

The following report was presented to the Académie de Médecine—

"At the meeting of the 1st of June, 1868, I had the honour of expounding before the Academy, on the occasion of a discussion on puerperal fever, views which differed considerably from those which had been previously taught concerning the physiological mechanism of the puerperal peritonitis.

"Starting from the fact, not then noticed, of the failure of uterine retraction in its relations with the development of this cruel affection of lying-in women, I have looked upon this as the starting-point and the essential condition of puerperal peritonitis. The uterine wound—the utero-placental wound I called it at that time—may be considered in turns as an exposed and as a closed wound, as the uterus either remains open and its placental surface exposed, or as this organ, returning within itself, contracts and brings together the anfractuosities of its inner surface. In the former case, the uterine wound is subjected to all the consequences of an exposed raw surface: it becomes inflamed and suppurates. In the second case, on the contrary, it benefits from all the advantages of a wound withdrawn from the contact of air: it cicatrizes and is immediately organised. I added that the exposed utero-placental wound, in consequence of the anfractuous and confined condition of the uterine surface, is aggravated by all the conditions and complications attending a putrefying cloaca, which communicates on the one hand with the external air, and on the other with the peritoneal cavity which attracts its contents.

"The starting-point of the malady having been thus determined, it became easy to understand how the putrefying material enclosed within the uterus, and the morbid changes which these engender by their presence, are propagated along the Fallopian tubes as far as the peritoneal cavity. The presence of this material, made out by myself on several occasions in the tubes, the inner surfaces of which were not changed, and the deposit of this material at the punctured extremity, removed all doubt as to the origin and migration of the morbid element, and the course of union established between the uterine and peritoneal cavities.

"There is no necessity now to recall to mind all the circumstances which concur in establishing the theory deduced from this collection of facts, nor to point out their connection with all the symptoms manifested in the course of puerperal peritonitis, such as the tainted odour of the lochial discharges, their suppression, the pains in the groin and along the course of the Fallopian tubes, the meteorism and abdominal tenderness, the partial or complete suppuration of the peritoneal cavity, in connection with the introduction, migration, and the deposit of material from the uterus; finally, the constant connection of the uterine deposit with the peritoneal deposit supplied by the former. All these facts and particulars, constituting as it were the formula of puerperal peritonitis, require only to be recalled briefly here in order that the indication which I have drawn from them may be comprehended, and also the system of apparatus which I have devised for the purpose of fulfilling this. The indication, reduced to its mechanical action, consists in impressing upon the putrefied uterine fluids a retrograde movement, by means of a system of aspiration which I have established for the treatment of all exposed wounds, and which the peculiar conditions of the utero-placental wound have obliged me to specialize. These conditions are sufficiently exceptional to merit being brought forward in evidence, either as elements of the problem to be resolved, or as witnesses of the efficacious action of the method.

"When the uterine cavity, in consequence of the non-retraction of the womb, forms an empty space communicating with the atmosphere, a column of air is necessarily introduced therein, and fills up the space which is not occupied by the uterine fluids. This column of air, moreover, exerts on all points of the internal surface of the organ, and also upon the materials contained within it, a pressure equal to the barometrical pressure. Also, as I have already indicated, the uterine cavity is in constant communication with the peritoneal cavity. But, as I remarked some time back, the peritoneal cavity, like all other serous cavities, undergoes variations in size, whence variations in its pressure upon the bodies it circumscribes. In the abdominal cavity these changes in size are under the influence of the respiratory movements; at each inspiration relative vacua are formed between the abdominal organs and the walls enclosing them, which produce at the orifices of the Fallopian tubes temporary actions of aspiration which are favoured by the permanent pressure of the column of external air upon the open and exposed internal surface of the uterus. Under the control of this condition of things, it is impossible not to recognise the utero-abdominal current which can be neutralized only by setting up a current in an inverse direction. But the effect of this current would be the aspiration of fluids introduced into the peritoneal cavity, and the gases which have been developed there, and consequently the retraction of the abdominal walls, and the provocation of the womb to withdraw into itself by exciting its contraction; this last being favoured by the removal of the pressure exerted on the internal surface. That this retrograde action may be exercised, it is necessary to comprehend that the external orifice of the vagina and the vaginal canal might by their occlusion close the passage to the external air, which without this precaution would seek from without inwards to fill up the void produced by the aspiration. This

then was the indispensable indication to fulfil in order to render possible the practical working of my method. But all these difficulties have been overcome, and all the effects sought for have been obtained by the apparatus devised by myself, and applied in the following case:—

"Madame C—— was delivered, with assistance, on Monday, the 10th of August last, at two o'clock in the morning, after one half-hour only of pronounced pains. This was her second lying-in. Delivery was to all appearances completed at once. Monday and the following day were passed without any bad symptoms. The lochia flowed away, but a portion of inodorous membrane, fifteen centimetres in length, was found in the discharge. On the following day the discharges were regular, and without odour. On Thursday, the 13th, fresh portions of ill-smelling membrane were expelled, and this was repeated on the two following days.

"On Monday, August 17, there was shivering, and also arrest of the lochia, which had continued up to that time to give off a bad odour.

"On the following day, the 18th, the shivering was repeated at seven o'clock in the evening. The lochial discharge had reappeared twice during the day, but smelt badly.

"On the 19th, there was complete suppression of the lochia, considerable tumefaction of the belly, pains in the groins, the middle of the abdomen, and the kidneys, the whole accompanied with renewed rigors. Uterine injections had been administered for two days. The patient was seen for the first time by M. Guerin at half-past four. The uterus was then seated at a distance of about two fingers' breadth below the umbilicus. The pulse was low, much accelerated, and scarcely perceptible. There was no doubt that the collection of symptoms indicated very decidedly the commencement of puerperal peritonitis. The patient was then placed in a warm bath—precaution being taken to establish a free communication with the womb by means of a large canula placed in the vagina. Uterine aspiration was next practised by means of the following apparatus, to which M. Guerin has given the name of 'aspirateur uterin.' This apparatus is composed of three principal parts:—

"1. A strong canula of vulcanized caoutchouc, about two centimetres in diameter and twenty centimetres in length, and furnished with lateral openings; this is intended to be passed to the bottom of the vagina.

"2. Two caoutchouc bottles placed over the canula, and capable of being filled with air by insufflation; these two bottles, moveable along the axis of the canula, serve as vaginal obstructors, one being placed in the interior, the other at the orifice of the canal.

"3. An arrangement for aspiration, composed of a long conducting tube, furnished with a stop-cock; part of this tube is composed of glass, in order to permit of observation of the passage of aspired material. This conducting tube opens into a glass bottle, intended for the reception of the same material, and connected on the other hand with a suction ball.

"The apparatus having been applied and disposed so as to set up an aspiratory action in the cavity of the vagina, the gas and air contained in this cavity was drawn out. The external orifice of the tube, previously closed by the cock, was immediately placed in communication

with the tube of an irrigateur *Equisier* filled with water, suspending carbolic acid. The cock being then opened, the water from the irrigator was forced into the vaginal cavity. At the end of two minutes the vaginal tube was put into communication with the aspirator, which immediately withdrew into the large bottle the injected fluid, slightly darkened, and containing a considerable quantity of gas. Some more water, containing carbolic acid, was again introduced, and at the end of five minutes withdrawn as before into the bottle. This time the injection was mixed with light red purulent matter, suspending clots of a tainted odour. At the same time that these phenomena were brought about, the belly became reduced almost to its normal size. From this moment there was a continuous and moderate discharge of lochial fluid of the usual colour and without any remarkable odour. The trunk of the patient was surrounded by a body bandage, exerting a moderate pressure upon the abdomen.

"To the rigors from which the patient had suffered, succeeded great heat, followed by much perspiration. The pulse rose suddenly; fever and delirium lasted during the night. Towards the morning the patient slept; and when she awoke the abdomen was found reduced in size, and the lochia flowing freely, and free from odour; the pulse was scarcely a febrile one, and the patient demanded some food.

"The patient was now well nourished. Baths and vaginal injections were the only means employed to remove the remaining abdominal tenderness. On the fourth day after the application of the apparatus, everything was going on well: the uterus could hardly be felt above the pubis; the patient took and digested her food, and slept well; the lacteal secretion, which had been arrested before the commencement of the treatment, was now sufficiently abundant for the alimentation of her infant.

"Since this epoch Madame C—— has continued to enjoy perfect health."

Art. 252.—*Obstruction to Delivery caused by Dorsal Displacement of the Arm.*

By Dr. Angus Macdonald.

(*Edinburgh Medical Journal*, August, 1868.)

Dr. Angus Macdonald read before the Edinburgh Obstetrical Society two cases of this kind. Sir James Y. Simpson was the first to point out the true nature of these cases, and Dr. Macdonald believes with that eminent practitioner, that such cases are not nearly so rare as is commonly believed. He is also "strongly inclined to believe," with him, "that minor displacements of the arm are very frequently the cause of lesser degrees of obstruction to delivery. On Tuesday eight days (19th of May), I was hurriedly sent for by a student to see a patient, a multipara, who had been some ten hours in the second stage of labour, and on my arrival, feeling convinced that the natural efforts would suffice to effect delivery, I merely waited a little till this took place. But as

the head was advancing towards the outlet I felt the fingers of the right arm firmly impacted against the left side of the neck between the left ear and shoulder; and on keeping the hand in this position till labour was completed, I found that the right arm was crossed over the upper part of the chest, and the forearm, being obliquely impacted between the left ear and shoulder, the head and arm engaged in the pelvis at the same time, and thus accounted for the delay.

"Sir James, besides, states that he believes that the occurrence of this accident undetected explains many cases of difficult labour in which no disproportion existed between the head and the pelvis, and wherein the uterine pains were normal, more especially referring to a case of Dr. Campbell's in which he had to perform craniotomy after failing to deliver by forceps.

"As to the difficulty of the accident and the obstruction presented by it, either to delivery by forceps or to natural delivery, the two cases I have just read are sufficiently conclusive. I have no hesitation in saying, that if such a case is allowed to go on unaided, judging from the extreme difficulty to cause the head to advance by traction, the patient is sure to die from rupture of the uterus or die undelivered.

"It seems to me also that, so far at least as the child is concerned, to attempt to deliver by forceps is equally objectionable, though not nearly so dangerous to the mother. The accident is, however, exceedingly easily put right if detected in time, and may be effected in either of two ways, viz., by podalic version, as Sir James Y. Simpson and Mr. Jardine Murray effected delivery in the case recorded by them, or by bringing down the arm by the side of the head, and converting it into a case of head and arm. This is what Sir James did first in his case, though, to quicken the labour, as his patient was very much exhausted and the pains weak, he had afterwards recourse to podalic version. I consider that, had it not been that, in my second case, the patient was so much exhausted from hæmorrhage, &c., and that the pains were somewhat weak, the labour would have been quickly terminated by the natural expulsive efforts, it was so easily effected by means of forceps. But the difficult point in regard to the obstruction is the diagnosis; the difficulty in this respect is, however, infinitely diminished by the ease with which such manipulations as are necessary can be effected under chloroform—an advantage which is clearly pointed out by its illustrious discoverer. Once the diagnosis is made out, all difficulty is over, and I can recommend no surer means of avoiding mistakes in such and similar cases, than a rule of practice recommended to me by Dr. Andrew Inglis, and that is, whenever a case is unnaturally prolonged and you can detect no cause, and the cervix is well dilated, chloroform the patient deeply, and pass the hand all round the head to see that no portion is impacted upon, or projecting unnaturally against, any part of the pelvis.

"I have never failed to regret exceedingly the disastrous result of my first case, and feel certain that the life of that child could have been saved had we only had forethought to suspect that this uncommon lesion was present. But such cases are peculiarly deceiving, they seem so natural in every respect. There seems nothing in such cases

to warrant the operation of craniotomy, though this, among other means, has been recommended as the proper treatment."

Dr. Keiller regarded the chloroforming the patient in all doubtful cases, and then introducing the hand to ascertain the true state of matters, as of great importance, and he had long been in the habit of recommending this plan to his students. It is the only method by which an accurate diagnosis can be made. The fact of some obstruction taking place in the progress of labour in women who had previously been delivered without difficulty should excite suspicion. In such cases as those related by Dr. Macdonald, the child's arm is generally bent at the back of the neck, and there is great difficulty in bringing it down. Dr. Keiller preferred turning to the forceps in these cases. Delay is fraught with great danger to the mother and child.

Dr. Burn said he had repeatedly met with similar cases, but had never experienced any great difficulty in getting the head through with the forceps. In such cases, he thought the fact of the head receding suddenly after a pain was a good diagnostic sign.

Art. 253.—*Curious Case of Spontaneous Version.*

By Dr. Paul Maunoir, M.D., of Geneva.

(*Medical Times and Gazette*, November 28.)

The following interesting case of self-evolution,—or, as it may perhaps better be called, self-turning,—is related by Dr. Maunoir:—

"I was called a few weeks ago to a woman, thirty-six years old, primipara, at full term after a favourable pregnancy. The labour began two days previously, but with very slight pains, very distant at first, and more frequent during the last night, though remarkably mild. As the real expulsive pains were wanting, the midwife sent for help at twelve in the day. I arrived twenty minutes after, and found the waters escaped just ten minutes, only about a full glass of viscous greenish fluid on the floor, the woman being up, and the surplus spotting the bed, but in a very small quantity. The first truly expulsive pain was felt at the rupture of the membranes. I was informed that the os uteri, very high in the pelvis, and still closed yesterday night, began to descend and dilate slowly after six this morning without the ordinary pains. The midwife felt the head presenting.

"When I touched I ascertained the head was at the brim of the pelvis, the anterior fontanel towards the left sacro-iliac symphysis, and very easily reached with the finger; the posterior on the right ilio-pubic symphysis, above the edge of the brim, so that the bregma rather than the point of the head was presenting. Between the fontanels a mere crowning of the scalp instead of the ordinary tumour. My finger was then covered with glutinous fluid and plenty of sebaceous matter.

"As the fœtus had not moved at all since nine in the morning, I believed it was dead, but I thought the labour would end naturally, and went away.

"When I came back—one hour and a half afterwards—the fœtus was just extracted; it had been pushed out almost without pain; the breech foremost, the back in front, the legs close on the abdomen, and the head had to be disengaged with a little difficulty. A large quantity of clots and blood poured out with the fœtus. The child was dead; no blood tumour; the lips thin and violet; the trunk covered with violet spots; the funis thin and quite pale. It was impossible to revive it. The placenta looked normal. Before I pulled it out there was much bleeding, and even after its extraction I had difficulty to stop the hæmorrhage. Happily the pains then began strongly, and the uterus contracted."

Art. 254.—*Induction of Premature Labour.*

By John Hall Davis, M.D., F.R.C.P., Obstetric Physician and Lecturer on Midwifery and the Diseases of Women and Children at the Middlesex Hospital.

(*Parturition and its Difficulties.*)

Of the different modes of inducing premature labour, Dr. Davis is disposed, upon the whole, where we have the choice, to recommend the use of the caoutchouc dilator, as a preferable plan to any other; using different sizes, when necessary, till, by their means, full dilatation of the mouth of the womb has been obtained.

Should the vagina be rigid and narrow, Dr. Davis widens it also by a separate dilator. It is far preferable to sponge tents for the purpose, which become exceedingly offensive.

The stilet, the author adds, may subsequently be resorted to, if pains do not supervene; but this will rarely be required.

Art. 255.—*Post Partum Paraplegia.*

By Richard J. Halton, L.R.C.S.I., L.R.C.P.E.

(*British Medical Journal*, June 20.)

Mr. Halton places on record the subjoined case:—

"J. McM., shopkeeper, aged thirty, when I saw her on Nov. 23rd, 1867, had been in labour for some hours with her fourth child. The funis was prolapsed, and the head rather tightly fixed in the pelvis. The pains were very slow and weak; her general aspect was spiritless; pulse small. I attempted to deliver by turning, as did also Dr. E. Kellett of Kells, who saw the case with me; but in this we altogether failed. I then, the child being dead, performed craniotomy; and, after three hours of alternate effort, we succeeded in delivering the child. There was very little shock, which quickly passed off, and the patient went on very well until the tenth day, when she complained of being kept awake by a great pain in her back, and said something felt sore

inside, as if the child's head hurt her during delivery. On examination, however, with the speculum, there was no discernible cause for it; the uterus and vagina looked perfectly natural; the pulse was quiet; the tongue clean; and the discharge slight and natural. I prescribed an opiate, which gave temporary relief; but the pain recurred, and in a day or two she lost the use of her lower limbs altogether, and was perfectly powerless from the hips down. I prescribed various remedies with but little benefit for a fortnight, when I ordered five-grain doses of iodide of potassium thrice daily, gradually increasing it to eight grains. In four days after she began this treatment, there was a decided change for the better. In a fortnight she was able to move her limbs very well. For some reason she then omitted her medicine nearly a week; but, the pain and weakness of limbs recurring, she commenced it again; and, having persevered steadily this time, she was able to walk about quite well in three weeks."

Art. 256.—*Induction of Premature Labour: Resuscitation of Child.*

By H. V. Barnes, M.R.C.S., Liverpool.

(*British Medical Journal*, October 17.)

The following case is related by Mr. Barnes:—

"M. K., aged twenty-six, being in her fourth pregnancy, and having been delivered by myself on the three previous occasions with the greatest difficulty (twice by the long forceps, and the third time by craniotomy, effected by perforating through the roof of the mouth, after the forceps and version had both failed), was advised by me to submit to the induction of labour at the eighth month. This was attempted by the injection of from ten to twelve ounces of warm water through an elastic male catheter introduced about three inches within the os, between the walls of the uterus and the membranes; the patient remaining in an inclining position for an hour or two, and then going about her duties. None of the injected water returned when the catheter was withdrawn, or subsequently. Nearly a fortnight elapsing without any result, I was about to repeat the operation, when, on the evening of July 28th, labour commenced three weeks before its time; and, on the morning of the 29th, I was fetched in haste, with a message that "the waters had come away." The water that came away, however, must have been that which had been injected; for the membranes were entire, and were only ruptured some time afterwards; when, finding the head would not enter the brim, I turned, and delivered with great ease.

"The child not making the slightest effort at breathing, I resorted to the Silvester method of artificial respiration, which I continued for ten minutes without any effect, and then adopted the Marshall Hall system for a similar period, and with the same result. I then inflated the lungs with my own breath, and again resorted to artificial respiration by alternately compressing the chest and abdomen. This failing, I

tried inflation once more, and once more the Silvester method. The heart had by this time apparently ceased to pulsate, and the whole surface of the body had become livid. Being determined, however, not to despair, though urged not to take any more trouble with a 'dead child,' I introduced a trachea-tube through the rima glottidis (which, from its direction, must have entered the left bronchial tube), and, blowing with some force, ejected from four to six drachms of fluid that must have been lodged in the trachea and bronchi. Resorting again to artificial respiration, my efforts were crowned in a short time with success; for the heart recommenced to beat; the surface of the body resumed its pink hue; and the chest began of itself to expand and contract. A smart slap on the back seemed to accelerate matters, and gave rise to a healthful hearty cry more than half an hour after birth."

Art. 257.—*A Novel Method of Resuscitation.*

By Richard J. Halton, L.R.C.S.I., L.R.C.P.E.

(*British Medical Journal*, June 20.)

The following case is related by Mr. Halton:—

"I was sent for to see this case March 25th, 1868. It was one of twins, and the woman was delivered of one child before my arrival. I found the arm of the second child presenting, so I immediately turned and delivered. The passages being well relaxed since the previous birth, the operation took but a very few minutes; yet the child was born very weak, and there was no attempt at respiration. As there was still pulsation through the cord, I left the child attached while I tried slapping the gluteal region, and warm baths alternating with cold. This proving ineffectual, and the pulsation having ceased, I separated the child from its mother, and commenced artificial respiration by Marshall Hall's method (resorting to the baths still). This I persevered in steadily for an hour and a half, occasionally rubbing a weak solution of ammonia on the tongue, and sometimes diluted whisky, applying whisky to its stomach, and keeping the child, when not in the bath, wrapped in flannel on my lap in the atmosphere created by a large turf fire. All my efforts, however, seemed fruitless; and an occasional very faint attempt at inspiration, which was made at first, was fast disappearing, when the following expedient struck me, which I at once carried out in this way. I made four or five small incisions in the skin of the chest just sufficiently deep to go through the cuticle and wound the cutis, and into them I rubbed raw whisky; I was rewarded almost immediately by a pretty deep inspiration, which began to be repeated at shorter and shorter intervals until, at the end of half an hour, I had the satisfaction (and indeed relief, for I continued the ready method) of handing the child to its nurse, faintly crying, with its respiration completely established."

Art. 258.—*On the Influence exerted by the Number of the Pregnancy, and by the Age of the Woman, upon the Mortality accompanying Parturition.*

By J. Matthews Duncan, A.M., M.D.

(*Dublin Quarterly Journal of Medical Science*, February.)

The following are the author's general conclusions :—

"1. The mortality of first labours is about twice the mortality of all subsequent labours taken together.

"2. The mortality from puerperal fever following first labours is about twice the mortality from puerperal fever following all subsequent labours taken together.

"3. As the number of a woman's labour increases above nine, the risk of death following labour increases with the number.

"4. As the number of a woman's labour increases above nine, the risk of death from puerperal fever following labour increases with the number.

"5. If a woman have a large family, she escapes extraordinary risk in surviving her first labour, to come again into extraordinary and increasing risk as she bears her ninth and subsequent children."

Art. 259.—*On Hæmorrhages with Placenta Prævia, and their Influence upon the Death of the Fœtus.*

By Professor Lehmann.

(*Nederl. Tijdschr.* i. 1868 ; and *Schmidt's Jahrbücher*, No. 9, 1868.)

It is known that bleeding occurs in connexion with placenta prævia, caused by abnormal changes which the lowest segment of the womb sometimes undergoes during the last three months of pregnancy. According to the views of most modern accoucheurs, the flow of blood comes exclusively from the maternal portion of the placenta : since the capillaries of the fœtal part of the placenta form a closed system, and do not anastomose with the maternal vessels. Hence the generally accepted statement that the fœtus loses no blood during hæmorrhage from the mother, and that the cases of death and suspended animation, so often observed, are to be ascribed, not to anæmia or nutritive deficiency, but to asphyxia or suffocation. Professor Lehmann does not accept this view unconditionally ; but he maintains that during bleeding from the maternal placenta the fœtus also can and must lose blood, inasmuch as the walls of the fœtal capillaries in some cotyledons of the detached placenta undergo a greater or smaller amount of laceration, generally produced during digital exploration. But a minute anatomical examination of the placental tissue after hæmorrhage will also prove that in reality the placental vessels of an after-birth, spontaneously separated under similar circumstances, are not in the same condition in the irre-

gularly placed placenta, as they are in a placenta with a normal position. In the latter case the vessels of the placenta are not torn. If milk be injected by the umbilical artery into a fresh placenta which has been spontaneously expelled during the course of a regular labour, the placental mass will be much distended, and the milk will not flow away from its uterine surface—a proof that the fœtal capillaries are uninjured. When this experiment is performed on a placenta with an abnormal seat of insertion—that is, on a placenta prævia—the milk, even when the placenta has been expelled directly after the birth of the child and in the same manner, will flow away by the side of the cotyledons, chiefly in those parts which have been forcibly disengaged. There must, therefore, in most cases of placenta prævia, be some conditions which bring about or favour this laceration of the vessels, and of these the most important one is the contact of the fingers with the after-birth during an internal examination. For, however cautiously an examination may be carried out, a slight bruising sufficient to cause laceration of the vessels is inevitable, and then the fœtal blood readily enough trickles forth. A frequent occasion for injuries of the placenta is the practice of plugging the vagina, or some operative means for completing the labour. In this way may we account for the fact that children who have been brought into the world after hæmorrhage resulting from placenta prævia, have an extremely anæmic appearance; and that they, when born in a state of suspended animation, are so rarely restored by artificial respiration; for it is known that suspended animation, when due to anæmia, is very seldom overcome. The anæmic condition of the body is demonstrated by a post-mortem examination. From the researches of Cohnheim it has also become more than probable, that hæmorrhage may take place from the fœtal placenta even without laceration of the capillaries, and merely by exudation of the blood through the walls of the vessels, since both red and white blood corpuscles can penetrate the intact wall of a vessel; of which fact one can be convinced by examining the mesentery and membrana nictitans of frogs. From these facts Professor Lehmann holds that those authors are in error who pronounce, without discrimination, that asphyxia or suffocation is the special cause of the death or suspension of animation of the fœtus with placenta prævia.

The general opinion is, that by interruption of the circulation in the utero-placental vessels the passage of decarbonized blood from the placenta is interfered with, and that, as a result of this, premature intra-uterine respiration is set up, during which, as there is no air in the cavity of the uterus, fluids—namely, blood, mucus, and liquor amnii—are inspired into the trachea and bronchi. Suffocation of children has also been demonstrated by accumulations found in the internal organs, in the lungs, heart, liver, intestines, and also by ecchymoses in the serous membranes, as well as by the presence of liquor amnii and meconium in the bronchial ramifications.

But asphyxia is not the only cause of death or of suspended animation; apoplexy or anæmia may also give rise to these events. Not merely in the rare cases of rupture of the umbilical cord or its vessels during birth, but also in instances of placenta prævia, when there has been partial laceration of the vessels in the tissue of the after-birth, may the death or suspended animation of the fœtus be brought about

through hæmorrhage, anæmia, or nutritive deficiency, as was proved by post-mortem examination in the following cases. Hæmorrhages from a badly ligatured umbilical cord, seem to prove that it does not require a very great loss of blood to bring about dangerous phenomena, or even to cause death. In a case reported by Dr. Hecker, of a child born dead after laceration of the placental vessels, great anæmia of the mucous membrane of the lips and trachea was met with; and, on the other hand, hyperæmia of the abdominal viscera, and the presence of meconium in the intestines. Professor Lehmann thinks further proof is required as to the explanation given by Pernice, that hæmorrhage from placenta prævia results in anæmia of the womb and diminished force of the maternal heart; as a consequence of which the child is no longer supplied with a sufficient quantity of oxygenated blood.

Case 1.—Frau V. was on September 9, 1867, in her sixth labour, the pregnancy having previously taken a regular course, when profuse hæmorrhage suddenly occurred. This, after it had been arrested for some hours by plugging, again returned, and was so excessive as to induce syncope. The abdomen was of the normal size, and the uterus reached to a point about a hand's breadth above the umbilicus; the fœtal heart-sounds could be heard distinctly on both sides of the abdomen. The os uteri was dilated to the extent of one inch; its margins were thick and elastic, and almost beyond reach. No part of the child could be felt, but the placenta was found covering the whole of the os. Recourse was at once had to forcible delivery; and as the head of the child was presented, turning was performed, and in the course of a few minutes extraction was accomplished. The child followed, immediately the after-birth, and the uterus then contracted favourably. The child was pretty well developed, and a male, but life was suspended, and the integument much blanched. It died after a few respirations. A post-mortem examination was not allowed. The presented portion of the placenta differed from the other parts in the tissue being strikingly pale, and of a softer consistence. The cotyledons existing at this part were separated from each other, and no longer covered by the thin decidua. There were small lacerations of the vessels, from which it was clear that bleeding must have taken place during the birth. The woman died three weeks later from continued fever with colliquative diarrhœa.

Case 2.—A. E. W., thirty-two years of age, was, on November 27, 1867, in the eighth month of her first pregnancy, brought into the lying-in hospital on account of profuse hæmorrhage. The abdomen was normal in appearance, but small; the fundus of the uterus could be felt about two fingers' breadth above the umbilicus; the fœtal heart-sounds were distinctly audible on the right side; the vagina was moist and bloody; the neck of the uterus was about an inch and a half in length, thick and somewhat swollen; the os uteri admitted the point of the finger: the vaginal surface was thick and swollen. No part of the child could be felt presenting. The pulse and temperature of the patient were normal; and there were no pains. The woman was kept quiet, and in the horizontal position, and dilute sulphuric acid was administered internally. She remained pretty well for the rest of the day and the following night; but on the next morning bleeding again came

on, associated with back pains. The finger could be passed upwards through both the external and the internal os, and there touched the membranes, and detected at the upper margin of the os uteri, on the left side, a small fragment of placenta. The membranes were perforated by a uterine sound, whereupon the pains increased in power and frequency, but the bleeding still continued, until the child's head in the first vertex position was arrested at the pelvic inlet. At half-past three in the afternoon the child was expelled, and was immediately followed by the after-birth. The child—about seven months old, and a male—died after a few minutes. The lying-in progressed without any disturbance. Post-mortem examination of the child showed that anæmia had been the cause of death. The skin, and the lungs, heart, and all the other internal viscera, were extremely deficient in blood. No traces of inspired liquor amnii or meconium were found in the trachea or bronchi. On the uterine surface of the placenta could be distinguished some small, circumscribed, pale nodules, which were proved by microscopical examination to be chorionic tufts in a state of fatty degeneration. In other respects the placenta appeared very yellow, except in the part which had been detached from the womb before birth, and could be felt at the margin of the os. This part was covered by dark-coloured and coagulated blood, and not lined as the other portions of the placenta with the fine epithelial layer of decidua penetrating between its lobes; several large and small vascular lacerations could be perceived even with the naked eye, and were rendered still more evident by milk injection passed into the umbilical artery.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 260.—*On Uterine Lameness.*

By GRAILY HEWITT, M.D., F.R.C.P., Professor in Midwifery in University College.

(*British Medical Journal*, November 21.)

"Uterine lameness," Dr. Hewitt defines to be interference with locomotion, difficulty or pain in standing or walking, in various degrees, due to an abnormal condition of the uterus.

It is well known, Dr. Hewitt writes, that inflammations of the abdominal viscera, in their acute stage, often render it physically impossible for the patient to walk at all; even passive motion of the legs gives the sufferer from peritonitis the acutest pain. In cystitis, in the acute stage of pelvic cellutitis, and in many other conditions, instances of which will readily occur to you, locomotion is difficult or extremely painful, and therefore, in one sense of the word, impossible; but not because the muscles of the legs are paralysed. There is lameness; but the power of locomotion is really unimpaired.

Some forms of uterine lameness are obvious and unmistakable enough. Such are cases in which the uterus is prolapsed, and forms a tumour

altogether external to the vulva, hanging down between the thighs, and rendering locomotion, of course, painful and well-nigh impossible. These are not, however, the particular cases to which Dr. Hewitt now refers. In the cases which will now engage our attention, the uterus is within the pelvis, and the "lameness" is produced in another way. The following is a typical case of one of these forms of uterine lameness.

"I saw," Dr. Hewitt says, "quite recently, in consultation with Dr. Macaldin, a single lady, aged thirty-five, a governess by profession. For several years past she has been an invalid; for, though looking stout and well otherwise, she has been unable to walk more than a few steps without producing great discomfort. Frequently she is obliged to leave the dinner-table and recline, owing to pain produced by the erect posture; and for a long time she has been quite unable to follow her occupation. The sensation of discomfort on exertion is, in fact, so extreme as to preclude active motion. Believing the uterus in fault, Dr. Macaldin requested me to examine her. It was found anteflexed, very low down in the pelvis, and the fundus pressing forwards and downwards to an extreme degree.

"In this case, the upright posture, increasing still further the dislocation of the uterus, gave rise to more pain. It is not difficult to understand why this dislocation of the uterus should give pain, the whole relations of the organ being altered, and the uterus itself the seat of flexion. Such a position of the uterus I have always found associated with pain on locomotion, varying in degree in different cases, with uterine lameness, in fact. I have had under my observation, at various times, a very large number of cases in which the disorder of which the foregoing case is a type existed, and invariably evincing the same relation as regards cause and effect. Frequently, anteflexion exists without much anteversion; and, when this is the case, a cursory examination reveals little, the os uteri being nearly in its proper place. But in such cases the body of the uterus is readily felt through the anterior vaginal wall by means of the finger; and a further examination reveals the true nature of the case. Trifling anteversion is a natural condition; but what I am now speaking of is something far beyond this in degree. The flexion is often greater than in the particular case above related.

"An extreme degree of uterine lameness was present in the following case, associated with anteversion of a marked form.

"A young lady, aged twenty-four, from the West of England, was sent to me by my friend Professor Wilson Fox. She had been ill for a year and a half, suffering from almost constant pain in the back and in the inguinal regions. Locomotion was productive of great aggravation of this pain. It appeared that, previously to the commencement of this illness, she had been much occupied in nursing a sick relative; and, in doing so, underwent much exertion. The uterus in this case was found completely anteverted, the organ lying parallel with the vagina, and the os uteri so high up that it was very difficult to reach it with the finger. The general health was much affected, and the whole system shaken and weakened. Insomnia, frequent nausea, and general want of appetite, were also noteworthy symptoms.

"Many other cases of a similar nature to the two foregoing have been under my care. The lameness associated with anteflexion or anteversion is by no means the only symptom, but it is a very constant one. Dysmenorrhœa, menorrhagia, tendency to abortion, sterility, these are symptoms more or less frequently observed also; but in the worst cases, the 'lameness' is certainly the most prominent and troublesome symptom. . . . . .

"I propose, in the next place, to call your attention to another class of cases in which uterine lameness exists. These are cases in which the uterus is flexed *backwards*, and the fundus is to be felt behind the upper part of the vagina. Here the lameness is, as a rule, more decided, and more constant, and more intense, than in the case of anteflexion; and this is not difficult of explanation, when we reflect that anatomically, as Dr. Savage well points out, the fundus of the uterus can be dislocated further in the backward than in the anterior direction. The lameness in marked cases of retroflexion is of the most intense degree; the slightest motion gives pain; walking is not impossible, but so painful that it is practically given up; and this state of things may go on for years unrelieved, and, indeed, increasing in severity, if the proper remedies are not had recourse to. The symptoms are not always so intense, but they are generally of the same kind. I have generally observed that the pain spoken of extends down the back of the thighs, and more so on one side than on the other, in this form of uterine lameness; and, indeed, sometimes it is altogether limited to this one position. Motion on level ground is often tolerated to a certain degree, but walking up or down stairs gives intolerable pain. In certain cases (of which my friend Professor Priestley mentioned an interesting case at a recent meeting of the Obstetrical Society) there arises, after a time, paraplegia; the muscles of the legs lose their power, and the patient is not only unwilling, but unable to walk. Here the paraplegia is probably a reflex phenomenon, but it may be connected with persistent disuse of the muscles.

"Let me cite one or two cases as types of this form of uterine lameness.

"A young lady, aged twenty-two, whom I saw with Mr. E. Baker some time since, unaccustomed to pedestrian exercise, took certain long walks in a mountainous district. She returned home ill, and became gradually unable to walk without severe pain. When I saw her, she had been confined to her couch for some months. The uterus was found to be retroflexed.

"Another very similar case, the daughter of a clergyman, consulted me for lameness. She was unable to walk without assistance, owing to extreme pain in the left inguinal region, and extending down the left thigh. The lameness had been increasing in severity of late; but she had been unable to walk without pain for a year previous to my seeing her. I found the uterus retroflexed, and bent a little to the left side, so that the fundus was inclined towards the great sacro-sciatic notch in the left side. The uterus and adjacent parts were in an exceedingly tender condition. Inquiry elicited the fact that, thirteen months ago, while travelling in a railway carriage, an accident occurred, and the carriage she was in was 'turned up on end.' A

severe shake was the only apparent result; but within a month afterwards she became gradually very ill, and the pain above described commenced.

"I have seen a few other cases of a similar nature where acute retroflexion had been evidently produced by a severe strain, or other mechanical cause, in young unmarried women; the interference with locomotion being the most noticeable symptom.

"But uterine lameness from retroflexion of the uterus is most frequently witnessed in married women; pregnancy and the process of parturition, involving as it does considerable enlargement of the uterus, predisposes most powerfully to the occurrence of this displacement and distortion of the organ.

"There are other conditions of the uterus which may occasion lameness, and which must next be alluded to. In the foregoing cases, the uterus has been supposed to be altered as regards its shape by what may be termed an intrinsic cause. But we now and then find the uterus pulled over in this or that direction by the presence of fibroid growths. Thus, a fibroid tumour growing in the outer part of the wall of the uterus, on its anterior or posterior aspect, will have the effect of inclining the organ in one or the other direction, and thus there may ensue impairment of locomotive power. It is the result of my observation, however, that, unless the uterus be at the same time considerably bent, the discomfort due to these tumours—so far as locomotion is concerned—is ordinarily comparatively trifling.

"It would be foreign to my object on the present occasion to consider how the various ailments above described are to be cured. That will form matter for consideration on a future occasion. My desire at this moment is, to impress upon you what has forced itself on me as a wide and comprehensive and true conclusion in regard to uterine disorders, that when you meet with a case in which there is impairment of locomotive power, associated with uterine symptoms, the probability is very strong that, on careful examination, decided flexion and mechanical distortion of the uterus will be found to exist. Let it not be supposed for a moment, that I deny the presence in many of such cases of other, and it may be important, changes in the state of the uterus, aggravating and increasing, as they often do, the original mischief; but my experience has taught me that they are, for the most part, secondary, not only in effect, but in importance. And it is, I believe, substantially true that, in nine cases out of ten, 'uterine lameness' is due to flexion and analogous displacements of the organ.

"Lastly, I would not have it supposed that I disregard the ovary in regard to the question of lameness. I have met with several cases in which difficulty in locomotion was connected with ovaritis in various forms and degrees; but, compared with uterine lameness, ovarian lameness is, I believe, comparatively rare."

Art. 261.—*On Irritable Uterus.*

By Edward J. Tilt, M.D., M.R.C.P.

(*The Lancet*, October 24.)

At a meeting of the Obstetrical Socicty of London, held October 7th, Dr. Tilt read a paper on "Irritable Uterus."

The author commenced by objecting to the term "irritable uterus" as representing a pathological nonentity, unless it were only intended to mean the aggravated utcrine neuralgia that may accompany any kind of chronic uterine and ovarian disease in women of highly susceptible nervous system. He remarked that the eminent practitioner who invented the term, and thought it represented a new disease, was well aware of the neuralgic character of the phenomena he had observed, comparing it with the hysterical joints of young women, of which Sir B. Brodie had then lately written. Dr. Tilt observed that it was not Gooch's fault if, when he wrote, utcrine pathology was in a very defective state, for the means of diagnosis were so very imperfect that he could not separately identify several chronic uterine diseases that set on foot and kept alive that distressing form of neuralgia which he looked upon as a separate disease. Dr. Tilt maintained that there was no greater difference between the intense form of uterine neuralgia called "irritable uterus" and the ordinary pains of uterine disease, than between the toothache of a long-diseased fang and the toothache of a comparatively healthy tooth, or than between an ordinary headache and the excruciating cerebral neuralgia of brain-tissue, the nutrition of which has been impaired by years of confinement to a sick room. He considered the paramount cause of utcrine neuralgia to be a morbidly inclined nervous system, without which severe uterine disease will not cause severe uterine neuralgia. Given this morbid tendency, and a very slight amount of any kind of uterine or ovarian disease may cause all the symptoms described as "irritable uterus." It may be congestion of the womb, or metritis, or cervical ulceration, or uterine displacements and flexions, the amount of mischief being often small, but there is always evidence of the womb having been more or less diseased for many years. Entertaining these views, Dr. Tilt entirely dissented from the statement lately put forth by Dr. Graily Hewitt, that "irritable uterus" was nothing more than retroflexion of the womb in a marked form. Dr. Tilt found aggravated uterine neuralgia to be of such rare occurrence that he could not understand how it could be considered of comparative frequent occurrence, unless the name was given to ordinary cases of retroflexion. Neither could he reconcile the assumed possibility of almost universally curing irritable uterus by the use of the American pessary, with the well-known fact, that many of these cases of aggravated uterine neuralgia are actually made worse by surgical manipulation.

Art. 262.—*On the Symptomology of Incomplete Laceration of the Uterus.*

By Dr. C. Hecker.

(*Monatsschrift für Geburtskunde*, April, 1868; and *Schmidt's Jahrbücher*, No. 6, 1868.)

It is an easy matter, in the great majority of cases, to diagnose a complete rupture of the uterus, but it is difficult to recognise the existence of an incomplete laceration, when only a part of the layers forming the uterus is injured, as, for instance, when the mucous or muscular coats have yielded, but the peritoneum remains intact. We can hardly obtain any certain information from external examinations, and on internal manipulation, which is generally required on account of the hæmorrhage, nothing more is to be discovered save a solution of continuity when an examination is made with the whole hand. But then the rent may be so covered by the head of the child, which does not reach here, as in cases of complete rupture, that some doubt remains as to its existence. Cessation, or at least considerable remission of the labour-pains does not occur, but on the contrary one observes a regular and probably somewhat weaker continuance of the pains until the last moment, since with laceration in the neighbourhood of the vaginal portion—the most frequent seat of this harm—the activity of the longitudinal muscles remains unimpaired. The ominous changes of countenance, the rapid collapse, the sensation as if something had given way in the abdominal cavity; in short, all the symptoms which manifest themselves so clearly with complete uterine rupture, in cases where the rupture is incomplete, are absent or exist but to a very slight degree. But one symptom has never been missed by Dr. Hecker; this is, that the pulse, as in cases of complete rupture, always becomes frequent and small.

With this uncertainty of diagnosis it seems so much the more important to recognise an addition to our list of symptoms of a lesion which Dr. Hecker was enabled to make out in the two following cases. This consisted in the formation in the anterior wall of the vagina of a tumour extending backwards and downwards, and which was caused by a passage of blood into the areolar tissue between the bladder and uterus, and also by the formation of an extra-peritoneal and ante-uterine hematocele.

Case 1.—A woman, thirty-five years of age, was taken in labour with her ninth child on March 6th; towards noon the midwife in attendance could discover no presentation of the child, but on the contrary a peculiar swelling in the front part of the vagina. On the following morning there was considerable hæmorrhage, and the vaginal swelling was then examined by Dr. Hecker; it was found to be elastic, fluctuating, and painless. It was decided not to be a cystocele, as no pressure could have been exerted on the bladder by the child, which was then placed high up and could not be reached by the finger; the introduction of a catheter into the bladder also did not reduce the swelling. On exploration with the whole hand Dr. Hecker found an unusually large head presenting in the upper part of the pelvis, but could feel no

solution of continuity in the uterine walls; in spite of the relatively good condition of the patient the pulse was more than 120. It seemed scarcely possible to attribute the vaginal tumour to anything else than an extra-peritoneal effusion of blood. Recourse was now had to immediate delivery. During the process of turning, Dr. Hecker felt distinctly a rent on the left side of the lower segment of the uterus. Turning and breech extraction were readily brought about; the head was found to be affected with hydrocephalus, and was therefore perforated and then delivered; the placenta followed without delay. The state of the patient soon after the operation was good, pulse 140; towards evening she became delirious, and the abdomen was distended, collapse rapidly followed, and death occurred thirty-six hours after delivery. No *post-mortem* examination.

Case 2.—A woman, forty-five years of age, and in her eleventh pregnancy, applied to the hospital at the end of December, in consequence of severe uterine hæmorrhage, the cause of which seemed to be a carcinomatous condition of the posterior lip of the os uteri. After the hæmorrhage had been arrested, the woman remained well until the 1st of January, when labour-pains came on accompanied by bleeding; the labour was very tedious, and the head remained fixed at the pelvic inlet. On the morning of the 3rd of January the waters were discharged; and there was then discovered on examination an elastic tumour on the anterior wall of the vagina, which tumour was not affected by emptying the bladder; the heart-sounds of the fœtus were no longer audible. At midnight the patient was found sitting up on the edge of her bed with the extremities hanging down; during the frequently repeated labour-pains use was made of the abdominal pressure bandage. There was a calm expression of the face, the breathing was but slightly accelerated, the radial pulse not perceptible, heart beats 156. At five o'clock the patient fell down upon the bed with the remark that her eyes were darkened, and died. The child, though dead, was turned and extracted.

Post-mortem examination.—Uterus flabby and large; at its right side was a sub-peritoneal extravasation of blood, which reached upwards as far as the kidney; after removal of the organs of generation, a rent was observed which during the operation had been converted into a complete orifice, but retained at its upper part the character of an imperfect rupture. The lower end of the blood-extravasation was found between the bladder and the vagina. The posterior lip of the os uteri was infiltrated with a literally firm mass, which presented under the microscope decided characters of medullary sarcoma.

Art. 263.—*On Flexions of the Uterus.*

By Alfred Meadows, M.D., M.R.C.P.

(*The Lancet*, October 24.)

At a meeting of the Obstetrical Society of London, held October 7th, Dr. Meadows read a paper on "Flexions of the Uterus."

The author began by asking whether the congestion and inflammation, with the attendant pain and local distress, which are so frequently present in uterine flexions, are the cause or the consequence of such flexion. He pointed out the practical bearing of the question in its relation to therapeutics, showing that if they were the cause of the flexion, treatment should be mainly directed to them; but if the consequence, then the mechanical reposition of the uterus claims first attention. Allusion was made to the recent advocacy of the latter view by Drs. Graily Hewitt, H. G. Wright, and others, from which the author expressed his entire dissent, maintaining that the former was entirely reconcilable with the clinical history of these displacements, and contending that the explanations offered by the advocates of the latter view were not borne out by facts. The author observed that in the great majority, if not in all, of the cases of uterine flexion which apply for treatment, congestion and inflammation of the uterus exist; and he adduced the following reasons for believing that this inflammation almost invariably precedes, and is the principal if not the sole cause of, the displacement:—1. That very commonly there is an antecedent history of uterine disorder. 2. That cases are often met with presenting very much the same general symptoms as those met with in uterine flexions, but where, on examination, inflammation without any flexion whatever is discovered. 3. When in such cases flexion takes place, the additional symptoms are due merely to the mechanical effects upon the surrounding parts, and are clinically separable from the preceding symptoms. 4. Cases of acute flexion are sometimes met with where no uterine symptoms whatever exist, and in such cases there is a complete absence of all inflammation. Various statistics were brought forward to prove that enlargement of the uterus from frequent gestation strongly predisposes to uterine flexion. Lastly, the author remarked that, for the foregoing reasons, our first care in the treatment of those cases ought to be to remedy that which is not only the cause of the flexion, but is at the same time responsible for by far the greater part of the patient's sufferings. When this is accomplished, but not before, we may resort to mechanical or other treatment for the reposition of the organ. The author believed that great evils would be likely to ensue if this plan of treatment were reversed.

Art. 264.—*Cases of Uterine Hæmorrhage.*

By W. Draper, M.R.C.S., &c., Resident Surgeon to the York Dispensary; late Resident Obstetric Officer to the Middlesex Hospital.

(*British Medical Journal,* September 26.)

The following somewhat interesting cases of hæmorrhage occurred to Mr. Draper, among many others, during his term of office as resident obstetric officer to the Middlesex Hospital, in 1866.

In obstinate cases of post partum hæmorrhage, in which the ordinary means fail to produce contraction of the uterus, and to arrest flooding, Mr.

Draper strongly advocates the employment of intra-uterine injections. He has injected both strong infusion of matico and iced water in many cases with the greatest success, and in no single instance has he seen the treatment productive of harm.

"CASE 1.—*Accidental Hæmorrhage at eighth month, treated by Intra-uterine Injection.*—This case was first seen by me at the hospital, when the patient informed me that she was eight months gone in pregnancy, and that during the last few days she had had considerable hæmorrhage, which still continued. A vaginal examination discovered the cervix uteri about two-thirds obliterated, soft, and yielding. The tip of the index finger passed freely into the external os; but the internal os was not dilatable. I ordered the patient home to bed, and to take a draught containing sulphuric acid and laudanum every three hours, with cold to the vulva, and a firm abdominal bandage. In the evening of the same day I was called to the patient, as she was having great loss. The external os uteri now admitted the finger freely. On passing my hand into the vagina, I was enabled to reach the internal os, which with difficulty admitted the finger-end, but which appeared dilatable. I could feel the fœtal head presenting, but nothing like placenta. As the hæmorrhage was very free, I passed an elastic catheter into the uterus (carefully avoiding the membranes), and injected about two ounces of a strong infusion of matico; and then plugged the vagina. The patient being much exhausted, beef-tea and brandy were given freely.

"The following morning, when I removed the plug, as some slight hæmorrhage occurred, I again injected the uterus with infusion of matico, and replugged. The os was rather more dilated. When the plug was again removed, there was no more hæmorrhage. Labour set in naturally some days later, when the case came to a favourable termination; child living.

"CASE 2.—*Post Partum Hæmorrhage: Contraction of the Uterus produced by Intra-uterine Injection of Iced Water.*—A student called me to this case some time after the expulsion of the placenta. I found the patient much exhausted, and flooding violently. Having restored her somewhat with brandy, &c., I removed some large coagula from the uterus, gave ergot, applied pressure, &c.; in fact, employed all the ordinary means to arrest the flooding, without avail. I then passed a large male gum elastic catheter (having a syringe attached) into the cavity of the uterus, and injected several ounces of iced water. The uterus contracted almost immediately; and, pressure then being applied, the contraction was kept up, and no more hæmorrhage occurred.

"CASE 3.—*Hæmorrhage fifteen days after Delivery.*—One of the hospital midwives called me to this case fifteen days after delivery of twins. The patient had suffered great loss before my arrival, and she was still flooding freely. Examination discovered the os uteri dilated sufficiently to admit the index and middle fingers easily. A firm blood-clot was found in the uterine cavity; this was removed, and firm manual pressure was exerted over the uterus; but very slight contraction of the organ was produced. As the hæmorrhage continued, a compress was applied, the vagina was well plugged, and the following draught prescribed every three hours—

"℞ Liquoris secalis, ℥xv; acidi gallici, gr. v; acidi sulph. dil., ℥xx; aquæ menthæ piperitæ ad ℥jss. M.

"On the following day, when the plug was removed, the uterus was found to be much diminished in size, and the os well contracted. No more hæmorrhage followed, and the patient made a good recovery.

"Case 4. *Post Partum Hæmorrhage from Irregular Contraction of the Uterus.*—I was called to this case some hours after labour, which, as the midwife in attendance informed me, had been a very rapid one. I found the patient flooding violently. Abdominal and vaginal examinations proved the fundus uteri to be tolerably well contracted. At about the middle third of the uterus there was a firm constriction; below this constriction the organ was dilated and flaccid, with the lips of the os everted. I removed a large clot from the lower dilatation, and then forced two fingers through the constriction into the upper portion of the uterine cavity, where another clot of considerable size was found. This having been removed, the right hand was made to dilate the uterine cavity, and the uterus was then grasped abdominally by the left hand, and the other thereby being forcibly expelled from the interior of the uterus, the organ was made to contract uniformly, and no more hæmorrhage ensued."

Art. 265.—*Bromide of Potassium in Sickness of Pregnancy.*

By Dr. Packard.

(*American Journal of the Medical Sciences*, July.)

Dr. Packard states that he has successfully employed the bromide in several cases where the sickness has been manifestly due to reflex irritation of the stomach, and in which the other remedies had failed. He gives twenty grains every three hours until the symptoms begin to yield.

Art. 266.—*Ovarian Neuralgia treated by Hydrochlorate of Ammonia and Tincture of Aconite.*

By J. Waring-Curran, L.K.Q.C.P.I., &c.

(*Medical Press and Circular*, August 19.)

By ovarian neuralgia, Dr. Waring-Curran means that class of ovarian disturbance which Dr. Churchill has described under the nomenclature of "*ovarian irritation*," and to that which Dr. West applies the simpler designation of "*ovarian pain.*" Clinical observation (the author writes) has taught that the disease is independent of any local lesion, and more remediable by constitutional than any other method of treatment. His object in this paper is not to enter into those cases of *ovarian neuralgia* dependent on defective moral training, and where a strictly moral treatment is to be enforced, and undue connubial excitement checked, but those cases where the patients' sufferings are constant and severe, when

there is no hysterial temperament, and no obvious symptom of imprudence or immorality. His object also, as briefly as possible, is to enter upon the treatment of such cases, and to illustrate, by the history of the six following, the great benefit to be derived from the muriate of ammonia and tincture of aconite in the treatment of this affection, when leeching, purgation, antispasmodics, vesicants, sedatives, internally administered, and locally applied, had signally failed.

"Case 1.—R. A., twenty-seven years of age, of sedentary habits and chlorotic appearance, unmarried, sought advice for a severe and constant pain suffered in the left iliac fossa; had been under another medical gentleman for ten days, from whose treatment she stated she had experienced no benefit. The pain was dull and aching in character, occasionally passing along the anterior surface and inner side of the thigh; has not slept for a week; the appetite is impaired, but the secretions are all healthy; the tongue has a characteristic nervous coating, and the pulse is quick; there is no hysteria. Upon examination, I find a fulness in the left iliac region, with tenderness. I ordered the application of liniment, belladonna with chloroform, over the seat of pain; prescribed a saline aperient mixture containing tincture of belladonna, and a sedative draught at bedtime. For three days this treatment was persevered in, but there was no relief to the symptoms; the only ease experienced was when the patient lay flat on the face. I then applied a blister over the seat of mischief, gave opium, cannabis Indica, and camphor, in the form of pill, and tincture of conium in mixture. The following day there was an aggravation of the symptoms; the patient had spent a restless night, and the relatives became anxious. Upon this I prescribed an eight-ounce mixture, containing two drachms of the muriate of ammonia, with five-drop doses of tincture of aconite. The combination seemed to act magically; before the bottle was finished, the pain was gone. Sulphate of iron and quinine was afterwards given, and four months have now elapsed without any return of the complaint.

"Case 2.—A. L., aged nineteen years, single, of a full habit, and hitherto healthy, became affected with a violent pain in the left groin, for which immediate advice was required, as the woman in attendance dreaded the existence of a hernia. On being visited I found the pulse high, and the usual symptoms of inflammatory fever. She had suffered severely four months previous to being visited, and had passed no water from the commencement of the attack; vomiting was a constant and distressing symptom. On examination I found slight swelling on the left side, with intense pain on manipulation; the tenderness extended below Poupart's ligament. Having satisfied myself that there was no rupture, I ordered turpentine stupes to be applied, and directed her to have a warm hip-bath, and a mercurial aperient. The following day, as there was no progress towards amendment, I applied six leeches over the site of pain. This gave temporary relief, but towards evening the pain became if anything more severe. I found her, on being visited, on her hands and feet out of bed, apparently suffering most acutely. I prescribed her a draught containing twenty drops of cannabis, and immediately placed her on the muriate of ammonia and aconite mixture. The ensuing morning she expressed herself considerably relieved, but the tenderness remained,

and at times the pain recurred, producing vomiting when it did so. The patient got on remarkably well until the menstrual period arrived, when the same state of things occurred over again; but under the muriate of ammonia and aconite much was done to arrest the disease. She has had a menstrual period since without any recurrence of the pain.

"Case 3.—A. R. F., aged twenty-two years, married for the last fourteen months, has long suffered from chronic ovarian pain, increased during the menstrual period. Has taken, to use her own words, "no end of medicine," and has been under the treatment of various physicians, "who all told her the same thing." I prescribed at once the muriate of ammonia and aconite; two bottles in the course of six days entirely removed the pain. Six weeks have elapsed, a menstruation passed with little pain, and at the present time (July 14) I learn from the woman, who came with another patient, that she has entirely recovered, and has had no return of the pain since she finished the last mixture.

"Case 4.—J. L., married, aged forty years, has suffered from ovarian neuralgia for a number of years. At times the pain is unendurable; during its existence there is fulness and tenderness over its site. Having been under treatment for an hepatic lesion, and obtained the above information in the history of her case, I told her, when the ovarian neuralgia returned, to apply, and I should prescribe for its relief. She accordingly did so in the course of time, and from the muriate of ammonia and aconite she obtains almost immediate ease.

"Case 5.—G., about twenty-five years of age, single, has suffered from the time of her first menstruation with ovarian pain, causing frequent and painful micturition, with vomiting. Gave her the muriate, and had the satisfaction of hearing her express that she obtained instantaneous relief after its administration. Has suffered from subsequent attacks, which invariably yield to the medicines advocated.

"Case 6 is furnished to me by a professional relative. It is that of a woman aged thirty years, who has borne three children, and has laboured under ovarian suffering f r a term of years. She had been a constant patient of my informant. He had 'exhausted the Pharmacopœia,' as stated, but with no benefit. Upon the exhibition of the muriate and aconite, the symptoms directly yielded to treatment, and the woman was relieved much periodic suffering, and the physician re-established the confidence hitherto placed in him."

Art. 267.—*Acute Tubercular Peritonitis, simulating Malignant Abdominal Tumour.*

By I. De Zouche, M.D., late Senior Resident Medical Officer, Liverpool Workhouse.

(*Liverpool Medical and Surgical Reports*, October.)

The following case is placed on record by Dr. De Zouche:—

Anne J., aged thirty-eight, was admitted into the Liverpool Workhouse Hospital on the 10th August, 1867. She stated that she had always en-

joyed good health until a mouth before her admission, when she noticed a swelling in the abdomen, which rapidly increased. She suffered no pain or inconvenience, further than slight discomfort from the size of the abdomen, until a few days previous to her coming into hospital, when her breathing began to be somewhat difficult, and she found herself unable to lie down in bed. On admission, the abdomen measured forty-five inches in circumference. There was no œdema of the feet. The heart and lungs were healthy. There was no apparent alteration in the size of the liver or spleen. The face was pale, and, while far from wearing the expression of health, gave no indication of the amount of mischief going on in the abdomen. The digestive powers were good, and the bowels regular. The menstrual secretion had been regular until the last period, when it did not appear. The abdomen was equally distended throughout, and fluctuation of fluid, apparently in the peritoneal cavity, was easily perceived. There was dulness on percussion over the whole of the abdomen, except in the right lumbar region, in a very limited space. Nothing could at this time be ascertained by palpation, the fluid intervening at every part except the spot above indicated. The urine was diminished in quantity, cloudy, faintly acid, sp. gr. ·1022, containing no albumen. A few crystals of triple phosphate were seen under the microscope, but no other peculiar appearance. The cause of the ascites was the more obscure as there was no family history of disease to guide in its determination. About the 18th August she commenced to vomit her food. This vomiting it was found impossible to check. She took food readily, even eagerly, although quite aware that she could not retain it. Quantities of yellowish muco-bilious matter were also frequently vomited. A great many remedies were tried to arrest this condition, but in vain. She suffered greatly from thirst. I remarked that the quantity of fluid vomited was much greater than that taken by the mouth. At the same time, the size of the abdomen decreased rapidly, and the outlines of what appeared to be a tumour could be felt. It appeared to consist of three parts, giving the idea of a semi-solid multilocular tumour, the largest portion occupying the left iliac and lumbar regions. There was much pain complained of on pressure being made over this situation. Shortly before death, the circumference of the abdomen was a little less than the normal measurement, and fluctuation was scarcely perceptible. The bowels were inclined to be constipated, but were acted on from time to time by aperients and enemata. Three days before death there was a natural evacuation. The patient became much emaciated and depressed from want of food and sleep. She dozed under the influence of opiates, subcutaneously injected, but was frequently awakened by the necessity of vomiting. She died on the 3rd September.

"Examination of the body thirty-six hours after death. There was evidence of recent pleuritis at the lower and posterior part of the chest, with serous and bloody effusion into the pleural cavities. The heart was healthy, but displaced upwards, and toward the mesial line. On opening the abdomen, what at first sight appeared to be a tumour came into view, occupying a great part of its cavity. It was found to consist of the omentum perfectly infiltrated with tuberculous matter, and thickened to the extent of half an inch. The stomach and intestines were matted together by this tuberculous mass, and were themselves studded with tubercle, which, however, was deposited on their peritoneal coats, but did not extend to their interior. The tuberculous inflammation appeared to have been most intense and recent in the left iliac region, where pain on pressure had been complained of. There was no tubercle in the lungs. The liver was slightly fatty, the spleen and kidneys healthy. A small quantity of fluid was found in the peritoneal cavity."

This case has many points of interest; first as to the diagnosis. This was surrounded with difficulties. It was believed that a malignant tumour existed, but its precise nature or position remained undetermined. The lobulated and uneven feel of the intestinal mass, covered by the thickened omentum, giving a dull sound on percussion over the umbilical and hypogastric regions, and, taken in connection with the ascites, seemed to indicate the existence of an ovarian tumour. The age and appearance of the patient, and the suppression of the menstrual secretion at the last "period," would confirm this belief, and the vomiting might be accounted for as the result of reflex irritation. Against this supposition were the facts that the os uteri appeared healthy and in its normal position, and that affections of the ovary seldom run such an acute course. Although tuberculous inflammations are not usually classed among the malignant affections, yet this had all the symptoms of malignancy in rapidity of course and exhaustion of the patient.

Another interesting phenomenon was the absorption of the ascitic fluid by the abdominal vessels, and its being emptied out by the stomach. This absorption must have taken place constantly, as the vomiting had no relation in point of time to the taking of food. It appeared as if it required a certain quantity of fluid to excite the stomach, which rejected it as soon as it had accumulated.

Art. 268.—*Three Cases of Puerperal Convulsions coming on at the Commencement of Labour.**

By James Cappie, M.D.

(*Edinburgh Medical Journal*, October.)

Dr. Cappie's special object in detailing these cases has been to illustrate the safety of early instrumental interference, when such seizures occur in the the early stage of labour.

"Case 1.—On the morning of the 5th April, 1862, I was sent for to assist my friend, Mr. Gibb, in a case of puerperal convulsions. Mrs. C. had fallen on the floor in a fit at eight o'clock the previous evening, and since then severe convulsions had continued to come on every half-hour. When I saw her at two A.M. the point of the finger could hardly be introduced into the os uteri, and there did not appear to be any uterine contractions. I punctured the membranes with a common pencil, and tried to dilate the os with the finger, but with little success, on account of the want of expulsive efforts. Chloroform had been freely administered before my arrival, but the fits continued to recur regularly every half-hour. The condition of coma between them was so deep that she could not be made to swallow anything. A glance at the dirty pale, almost anæmic, countenance of the patient was sufficient to convince us that bleeding to any extent was not to be thought of. I left her, with

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* Read before the Edinburgh Obstetrical Society, May 13, 1868.

instructions I should be sent for if pains appeared to commence. I was sent for at six A.M., and found the os slightly dilated, and the pains very slight. I again tried to dilate with the finger, and succeeded till it was about the size of a crown-piece. The case now appeared very urgent. It was obvious that unless the patient was speedily delivered, she would soon sink from exhaustion. But the vagina was not relaxed, and the distinction between the internal and the external lips of the os was not obliterated; that is to say, the parts were in the condition in which most eminent authorities insist that instrumental interference is not to be thought of. Still, such interference seemed to be the only chance left to the patient, and I determined to attempt delivery. In the manner to which I shall more particularly allude afterwards, I succeeded in applying the forceps; then, by making cautious and intermitting traction on the head, and at the same time supporting and pushing back the lips of the os, I got the latter gradually to dilate. After the head had passed into the vagina, the child (dead) was born in a few minutes. This was at eight A.M., and the patient had only two fits from that hour till four P.M., after which they did not return. In the forenoon she had a turpentine injection, which roused her sufficiently to enable her to swallow a little brandy and water, but the comatose condition continued the whole of the next day. Small quantities of stimulants and beef-tea continued to be administered to her, and after consciousness returned, her progress towards convalescence was steady. I may mention that this patient had convulsions in her first confinement; that, according to her husband's statement, she was then largely bled without the frequency of the fits being affected; and that, though they had continued a much longer period in her present confinement, her recovery this time was as satisfactory as in her first.

"I was sent for to see this patient again a few months afterwards, as she had taken a convulsion fit. She was in the third month of pregnancy, and on examination I found the ovum in the vagina. After it was taken away there was no return of the convulsions.

"CASE 2.—On the morning of Sunday, 29th March, 1864, I was sent for to see Mrs. M'L., then in the beginning of the eighth month of her first pregnancy. I was informed that she had been obliged to rise about two o'clock on account of severe headache; that, to relieve this, she had allowed cold water to run from a cistern on her head for a few seconds, and that at four o'clock she was seized with a fit of convulsions. When I saw her, consciousness had returned, but as she was telling me how she had been feeling, another fit came on. After this, consciousness was not for the time recovered, and the fits recurred every half-hour. I immediately ordered the hair to be cut off, and leeches to be applied to the temple. I returned at seven A.M., and found the patient as I had left her—unconsciousness persistent and deep, and the fits returning regularly. Drew off a small quantity of water, which I found to be albuminous. I then cupped over the loins, and took away more than a large soup-plateful of blood, and afterwards administered chloroform; but the frequency of the fits was not in the least affected by these means. I made occasional examination, but the os uteri showed no tendency to dilate till five o'clock in the afternoon, when I could introduce the finger within it. On account of its rigidity, and the un-

relaxed state of the vagina, the efforts to dilate it were fatiguing for the fingers, and it was half-past seven before I could venture to apply the forceps. This, however, I accomplished before the os was half dilated. I then set to work, and, in imitation of the natural pains, made intermitting traction on the head, and at the same time continued to dilate with the finger. The child (dead) was born at ten o'clock. From four in the morning till this time the convulsions had been wonderfully regular. Whenever the time was noted, the interval was never above a few minutes more or less than half an hour. After the second fit complete insensibility continued between the fits. From ten o'clock till half-past two next morning she had four seizures—scarcely one in each hour; then she had other four between 2·30 and 11 A.M.; after which they never returned. Altogether she would have forty distinct epileptiform seizures—the most of them severe. In the afternoon her breathing became quiet, and, except that she could not be roused from it, her sleep appeared natural. In the evening she was able to swallow a little, and the next two days she readily took in whatever was given to her, but it was Thursday before she looked about her and attempted to speak. So speedy, however, was her convalescence after this, that on the Saturday she was sitting up in bed to her meals and feeling quite well. Thirteen months afterwards, I again attended this patient, when she miscarried at the sixth month. During pregnancy she had frequent headaches, but no albuminuria. The kidneys were kept active with acetate of potass. There was no return of convulsions. She has been repeatedly pregnant, but miscarries at the sixth or seventh month from diseased placenta.

"CASE 3.—M. D., aged thirty, was admitted to the City Poorhouse on Saturday, 11th April, 1868. She supposed herself to be near the end of the ninth month of her fourth pregnancy. On the Sunday forenoon she complained of headache, for which she kept her bed, and at mid-day she had a convulsive fit. The nurse, thinking she might be subject to epilepsy, did not send for medical assistance. The fit soon passed off, leaving the patient drowsy. She got a dose of castor-oil, which operated freely, and during the two following days she was going about and feeling in her usual health. She stated that she never had suffered from convulsions before. On Tuesday evening she went to bed, feeling well. At 1.30 on Wednesday morning she got out of bed, appearing stupid and not to know what she was about. Immediately on lying down again she was seized with a fit. When this went off, consciousness did not return before another seizure came on, twenty minutes after the first. When I was sent for, I happened unfortunately to be away at another confinement, and did not get the message till after four o'clock. The tenth fit was just passing off when I saw the patient. On examination I found the os soft, and easily admitting the point of the finger. I separated the membranes as far as I could, and then ruptured them with a stocking-wire. There did not appear to be any uterine contractions. The question then came to be, should I bleed? The patient was a little woman, moderately well nourished, and with a very short neck. The breathing was hurried, the inspirations being short and quick, but without any approach to stertor, and the expirations more prolonged and noisy. In other respects she was perfectly quiet

between the fits. All the muscles were flaccid, and the limbs motionless. Pulse 72, regular; the face rather pale; no flushing before the fits; no throbbing of the carotids; in short, nothing to indicate any unusual tension in the circulation. I therefore determined simply to attempt delivery as speedily as possible, and proceeded as I had done in the other two cases. I first dilated the os as far as the uterine inertia would permit. I drew off a small quantity of urine with the catheter, and it proved to be highly albuminous. Indeed, the water in the tube appeared, on being heated, to become converted into a curd. Shortly after five o'clock I applied the forceps, made traction on the head, and continued to push back the os. This was pretty well dilated before any well-marked expulsive efforts were made on the part of the mother, and these efforts were only brought on when I made the initiative by moderate traction. The labour was completed at a quarter past six o'clock. The child, a fine healthy-looking girl, cried lustily as soon as it was born, and up till this time it has kept well. I now expected the severity of the fits to abate, but in this I was disappointed. They continued to recur every twenty minutes, and as strongly as before. When a seizure was about to come on, the patient opened her eyes with an expression so placid that one could hardly help thinking she was about to become conscious. But this was only for a couple of seconds; immediately the head was turned to a side and thrown back; the eyes were rolled upwards towards a corner of the orbit, and the mouth opened with a short cry, resembling a suppressed exclamation of dread; then the muscles of the face drew the features into ugly contortions; the arms were thrown out with rapid whirling and striking movements, as if passionately aiming blows at an imaginary antagonist; the body, too, wriggled with movement, and the legs were fairly lifted off the bed with a rapid violent pattering action. As the fit was going off, the limbs first became quiet, the arms fell with one or two spasmodic jerkings of the shoulders, and the working of the face—now livid from venous engorgement—disappeared with a few twitching movements. Abundant frothy mucus, occasionally tinged with blood, came from the mouth. Till another fit came on, the most complete relaxation was present; neither head, hand, nor foot stirred, but lay in whatever position it was placed. The respiration continued hurried, but was never stertorous. Early in the morning her hair was cut off, and six leeches applied to the temple. A turpentine injection was also given, and acted freely. In the forenoon I tried the inhalation of chloroform. None of these means had any effect in moderating the fits; they continued regularly till midnight, by which time she must have had about seventy seizures. From 12 o'clock till 6 A.M. on Thursday she had one fit each hour. During the day she had only slight seizures on the right side, the arm being thrown up as far as it could be raised; pulse had become very quick and weak. She had a severe fit in the evening at 10.30, and others on Friday at 3 A.M. and 5.30 A.M. In the forenoon she kept very quiet, and was able to swallow a little spirits and water. I saw her at 11 A.M., and felt very sanguine she would rally. The respiration was tranquil; pulse 80; the kidneys were acting freely. An hour afterwards, however, the breathing suddenly stopped. The nurse thought she was about to become convulsed again, but no fit came on,

and the breathing did not return. I may mention, that the mother of this patient also died from childbed convulsions."

In regard to the pathology of epileptiform seizures, the opinion appears to be gaining ground, that during their continuance the brain is anæmic, and not congested; that the blood is watery, and not over-abounding in red corpuscles. If this view be correct, Dr. Cappie writes, then bleeding can only exert a beneficial effect by diminishing the absolute amount of a supposed poison in the blood. But it is to be remembered that the most certain effect of blood-letting is to increase the proportion of the watery elements in the circulation; and it may therefore be a question whether, in uræmic convulsions, the *relative proportion* of irritating material in the blood may not also be increased by large bleedings. In this view, the occurrence of a convulsion, *per se*, is no more a reason for taking away a large quantity of blood than is the occurrence of a paroxysm of delirium tremens.

We find in practice that many cases get well without the use of the lancet. Dr. Cappie's own experience is confirmatory of this.

The following is a brief notice of all the other cases of puerperal convulsions he has met with:—

"Mrs. T., a primipara, had severe forcing pains in the last stage of labour. When the head was nearly born, a convulsion fit came on. It passed off, and the child was expelled with the succeeding pain. She had another fit shortly after the placenta was expelled. In this case nothing more was done than is usually attended to in a case of ordinary epilepsy; the shoulders were raised, and care was taken to have nothing tight about the throat and chest. No other attack came on, and the patient made an excellent recovery.

"Mrs. C., also a primipara, had a moderately easy labour, during the last two hours of which she was under chloroform. She was better before ten o'clock in the evening, and I left her at eleven. During the night she complained of severe headache, and at five A M. she was seized with convulsions. When she recovered consciousness the headache continued, and at six o'clock she had another attack. By this time I had seen her, and put six leeches to the head. The fit recurred every hour till nine o'clock. In the meantime I found that the urine was albuminous, and ordered a drink with acetate of potass in it, which she was to take freely. The headache had not been relieved by the bleeding, but soon after taking the mixture she was greatly soothed, and the fits did not return.

"Lastly, less than three weeks ago, I visited E. L., a weakly irritable woman, in the eighth month of her third pregnancy, who had been seized with a severe convulsion. I saw her shortly after she had recovered consciousness. She had taken castor-oil that morning to relieve severe headache she felt, and it had operated freely, but without relief to the headache. The urine was scanty, but not albuminous. I immediately ordered the acetate of potass. This flushed the kidneys, with complete relief to her feelings, and she has continued well."

Art. 269.—*The Treatment of Puerperal Convulsions.**

By J. G. Swayne, M.D.

(*British Medical Journal*, August 8.)

After commenting on the unaccountable disfavour with which depletion, even in this disease, is now regarded by many practitioners, Dr. Swayne related a well-marked case in his own practice, in which the convulsions which had increased after delivery and after all the usual remedies, except chloroform, had been tried, were at once arrested by bleeding. He also cited similar cases occurring in the practice of Dr. Depant of Paris, and Dr. Dyce of Aberdeen. In one case related by the former, chloroform had been tried for four hours without avail before bleeding was had recourse to. Lastly he narrated a case from the practice of his brother, Mr. S. H. Swayne, in which bleeding was attended with a like success, and followed by a marked diminution in the quantity of albumen in the urine within a very few hours. Dr. Swayne regards bleeding as the most important remedy of all, especially in those convulsions which have a centric origin.

Art. 270.—*On Cystitis in the Female.*

By M. Demarquay.

(*L'Union Médicale*, No. 118, 1868.)

A very common malady, but one little studied, is acute or chronic cystitis in the female. Still, if one takes the trouble to examine with care the urine of women applying for treatment of some affection of the uterus or of its appendages, the truth of the remark just made will be readily proved. M. Demarquay has frequently been consulted, both in hospital and private practice, by young women complaining of much pain during micturition. Examination of the urethra revealed some redness of the urethral mucous membrane, either simple or complicated with swelling. A certain number of these patients had been subjected to various plans of medicinal treatment, without any kind of relief; and some had even undergone cauterizations, practised for the purpose of removing the pains, which were supposed to be neuralgic. But on reflecting that micturition was particularly painful under two conditions—1. When the canal was inflamed, and 2, when the urine was altered in its composition, and contained pus—M. Demarquay was led to examine with the naked eye, and also with the microscope, the urine of women who complained of pains more or less severe during the passage of urine from the bladder; it was then made out that the bad symptoms were owing to chronic cystitis. In these cases the urine, when placed in high glasses, deposited a certain quantity of purulent mucus.

M. Demarquay, taking into consideration the very intimate relations

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

between the bladder and the uterus, was led to study the condition of the bladder and urine in acute and chronic affections of the womb. In acute affections of the uterus it may be conceived how readily the bladder shares in the painful condition of the uterine organ; there is scarcely a practitioner who has not observed under those circumstances disturbances more or less serious of the emission of urine. The fact is too well known to be insisted upon. But it is no longer the same in chronic affections of the uterus, since with these maladies the conditions of the bladder have not been investigated with the same amount of care; still they deserve careful attention, for by studying the phenomena which occur on the side of the bladder, we shall find in this study not only fresh indications to fulfil, but also the cause of the phenomenon hitherto but insufficiently investigated. Thus in organic affections of the neck of the uterus we may often observe purulent urine, and also frequent desire to micturate, accompanied with pain; in these particular cases the nature of things may be more readily comprehended by the fact that the disease has been communicated to the bas-fond of the bladder; but chronic cystitis often exists without any complication on the side of the uterus.

Cystitis complicating chronic metritis is very often completely overlooked, as women seldom call the attention of their medical attendant to the fact that they suffer pain during micturition, and that they are often obliged to fulfil this desire.

The symptoms of cystitis generally yield to a successful treatment applied for the acute or chronic metritis. But it has happened to M. Demarquay to have observed women who were to all appearances perfectly relieved of their uterine affections, still complaining. Examination of the uterine organ revealed no serious changes; but on exploring the bladder and examining, the true causes of the patient's complaints were discovered.

In consequence of circumstances difficult to determine, the uterine malady may disappear, whilst the cystitis, which at first was but a neighbouring affection, may obstinately persist.

The coincidence of acute or chronic cystitis complicating an acute or chronic affection of the uterus is a fact which has been mentioned by several surgeons who have paid great attention to the maladies of the uterus. But the point which has not been sufficiently insisted upon is the frequent occurrence of this complication, to which M. Demarquay has thought it necessary to call the attention of the profession.

Art. 271.—*On Fissure of the Neck of the Bladder.*

By M. Noel Gueneau de Mussy.

(*Gazette des Hôpitaux*, No. 105, 1868.)

The following clinical remarks were made at the Hôtel Dieu by M. Gueneau de Mussy:—

"There is in the St. Bernard's Ward a young woman who was delivered on January the 14th, and subsequently entered the hospital, not on her own account, but to obtain careful treatment for her infant,

which had arrived at the last stage of cachexia, through inanition. Since her delivery, which occurred two months ago, and was easily accomplished, she has experienced a scalding sensation during micturition.

"This morbid phenomenon is not of rare occurrence after tedious labours, when the head of the child has remained for a long time in one position, and particularly when it has pressed directly upon the urinary organs, or when the forceps has been applied; finally, whenever the neck of the bladder has been violently bruised by some injury. Dysuria then occurs. Emission of urine is painful, and sometimes impossible, so that it becomes necessary to have recourse to catheterism.

"In our patient the affection which was so readily produced, quickly increased in intensity. At the end of four weeks, micturition had become very painful and very frequent. At certain periods the woman could not retain her urine, which flowed away in a sudden, rapid, and interrupted stream. She felt at the same time pain, which at first was slight, but afterwards, at the end of micturition, became very severe, and was afterwards prolonged for twenty minutes, even half an hour. The urine contained blood and purulent mucus. There was a yellowish deposit, which occupied the lower fourth or third of the vessel in which the urine had been received, and above this was another deposit of a deep red colour, the composition of which could be easily recognised on a simple direct examination, and was determined unquestionably by means of the microscope to contain blood corpuscles and leucocythes.

"The patient did not call our attention to this affection before she had been in the hospital for some fifteen days—that is to say, two months and a half after their commencement. For some days she had had rigors, had lost appetite and rest, and suffered from malaise—in fact, she had fever.

"From the pain experienced by the patient at the end of micturition, and for some time after this act, it was for us to inquire whether there were not a calculus in the bladder; for when the bladder, in emptying itself, brings its walls into contact with a very hard and irregular stone—as, for example, one of oxalate of lime—and pushes this against its neck, a very painful irritation of the mucous membrane results. The muscular layer may, by redoubling its contractions, increase and prolong the suffering of the patient. After inquiring into the manner in which micturition was performed in this case, it was learnt that the patient often experienced a sensation of contraction, a sudden spasm of the neck of the bladder, and that then the jet of urine was arrested for a moment, and afterwards sharply emitted again. These interruptions were frequently repeated, and accompanied with very acute pain. The symptoms were those of vesical tenesmus, and there was nothing characteristic of stone in the bladder. A sound was passed, causing great pain, and did not reveal the existence of any foreign body within the bladder.

"On examining the orifice of the canal of the urethra and the vagina, the mucous membrane was found of a deep purplish red colour. The meatus was prominent and injected, either in consequence of the irritation caused by the contact of pus, or by a propagation of the inflammation developed at the origin of the canal.

The first diagnosis was cystitis of the neck of the bladder with urethritis, but after consultation with M. Voillemier, who had previously observed a similar case, the symptoms were attributed to a condition of the neck of the bladder analogous to that existing in fissure of the anus.

"This view was, indeed, a perfectly justifiable one. In cases of fissured anus, the passage of the fæcal bolus excites at first a painful sensation, which is afterwards quickly transformed into acute pain, increasing more and more, and finally acquiring extreme severity under the influence of the spasmodic contraction of the sphincter. These symptoms are prolonged for a longer or shorter time after defæcation, and gradually diminish until another stool. Exactly the same train of symptoms occurred in our patient during micturition. Are we not authorized in attributing these identical phenomena to the same cause—a fissure?

"M. Voillemier treats this affection of the neck of the bladder by forcible dilatation. After having placed the patient under chloroform, he introduces into the canal of the urethra forceps with two long and thin branches. These are passed into the vesical cavity, and then, when half opened, are forcibly withdrawn. In M. Voillemier's case there was immediate relief; and, after a few days, there was no blood in the urine. Notwithstanding the ingenious character and the success of this operation, I preferred, before having recourse to it, to exhaust the resources of less violent therapeutic methods. The following plan of treatment was then carried out:—

"At first, emollient injections were applied to the interior of the bladder; and afterwards, in the course of a few days, I ordered injections of a solution of nitrate of silver, the amount of which was gradually increased. During the first two days the injection consisted of 20 centigrammes of nitrate of silver in 400 grammes of distilled water; two days after this the amount was increased to 40 centigrammes, and finally to 50. After four or five days of this treatment the pains were notably diminished in severity; and at last they entirely ceased. The blood and then the pus disappeared from the urine, and after fifteen days the patient was cured.

"M. Voillemier is not the only one who had noticed the existence of a vesical fissure. M. Nélaton had also met with two examples, and struck with the symptomatic analogy which existed between this affection and fissured anus, attempted to apply to it the same kind of treatment. An instrument was devised by M. Nelaton for performing dilatation, but the operation did not remove the symptoms."

Art. 272.—*On Diagnosis, in the Female, by the Hand Introduced into the Rectum.*

By C. F. Maunder, Surgeon to the London Hospital.

(*The Lancet*, September 26.)

"A few days since," Mr. Maunder writes, "my colleague, Dr. Head, requested my opinion in the case of a young woman with atresia

vaginæ. With this exception the external signs of her sex were sufficiently developed. We were anxious to determine the presence or absence of a uterus, as well as the possibility of reaching that organ by means of an artificial vagina. The finger in the rectum enabled us to detect the left ovary lying low down in the pelvis, and on a higher level than this the digit just reached a firm body to the right of the mesian line, which might possibly be the cervix uteri. It was determined to cut for this in the natural site of the vagina. Having made an incision in the mesian line between the fourchette and the meatus urinarius (where was a depression), I tunneled my way with my forefingers upwards in the direction of the supposed os uteri. A passage thus made, the length of my finger allowed me to feel something, but still at a distance from the point of the finger, and not in the mesian line. I was unwilling to cut further. At this stage Dr. Head suggested that I should resort to the mode of examination which he had heard I had adopted, and as is above mentioned. I accordingly (the back of the fingers and hand being well oiled) introduced the hand into the rectum, and was enabled to determine the absence of the uterus, but the presence of the right ovary, and it was this organ which we had suspected might possibly have been the cervix uteri. With the left hand in the rectum, and the right upon the anterior abdominal wall, I was enabled to explore the pelvis with facility.

"In cases in which it is of vast importance to determine with accuracy, as it certainly was here (question of marriageability), the state of the pelvic organs, whether in reference to congenital malformation or to morbid growths (tumours, &c.), the hand introduced will avail much.

"Should the sphincter be ruptured, as it was slightly in the above case, incontinenee of fæces for a short time is a matter of little moment when compared with the great importance, in certain instances, of arriving at a positive diagnosis.

"*Note.*—The patient being thoroughly under the influence of chloroform, the hand should be introduced with the backs of the fingers and the knuckles towards the hollow of the sacrum, up which it will glide as soon as the knuckles have passed the sphincter, either by dilating or rupturing it."

Art. 273.—*The Rectum in its Relations to Uterine Disease.*

By Professor Horatio R. Storer, of Boston, Surgeon to the Franciscan Hospital for Women, &c.

(*The American Journal of Obstetrics*, May, 1868.)

In this paper three propositions are laid down.

1. The frequency of organic disease of the rectum in women is, as a general thing, under-estimated.

2. The importance of such disease in causing, exaggerating, or modifying the character of uterine disease is, as a general thing, not appreciated or recognised.

3. The present treatment of rectal disease, especially its surgical treatment, is capable of being very materially improved.

The author adduces the following case as a single illustrative instance of the method of diagnosis described in his paper.

"A young lady, unmarried and of strumous habit, to whom I had been called in Hampden County, some four years since, was subsequently removed to Boston, and placed under my care. She had uterine disease, with reflex ovarian and vesical disturbance. The meatus and vulval orifice were fringed with irritable outgrowths which necessitated excision, and there was withal vaginismus and urethral spasm of such severe character that the finger in the one case, and the catheter in the other, could only be passed during anæsthesia. A prominent symptom was the existence of intestinal and rectal irritation, the bowels being at times so inactive, that on several occasions I was compelled to artificially remove large quantities of impacted fæces; and at others there was excessive and very offensive purulent diarrhœa, and this almost irrespective of medication or diet. Digital or specular examination of the rectum was as impossible without anæsthesia, as that by the vagina, while after the full anæsthesia had been induced, such was the spasmodic condition of the sphincter ani, that a satisfactory examination by either of the methods indicated was still impossible. I was able to ascertain the presence of ulceration within the rectum, sufficient to account for many of the patient's symptoms, but of its extent and precise character I was still ignorant. My father saw the patient with me in consultation, with the same result. I now ruptured the sphincter ani and practised vaginal eversion of the rectum, with the effect of disclosing the whole portion of the interior of that canal, which was affected by the disease, settling at once the diagnosis, and rendering the requisite local remedies as easy of application as if to the exterior of the body. This patient, I may add, had also ulceration of a limited portion of the ascending colon in the neighbourhood of the cæcum, dating from a dysentery long previous, and localized distinctly enough by a point of severe and chronic pain. From this she never got ease till I applied a strong solution of nitrate of silver through a rectal or rather colonic hollow bougie, passed through the sigmoid flexure, and until its extremity could be felt by external palpation in the right inguinal region, at the seat of pain. Temporarily relieved in this manner, the poor girl finally succumbed to her malady; in this case the uterine and other pelvic disturbances having been the result rather than the cause of the intestinal disease."

Art. 274.—*On Scarification of the Cervix Uteri in Inflammatory Affections of the Womb.*

By R. H. Meade, F.R.C.S., Consulting Surgeon to the Bradford Infirmary.

(*The Lancet*, October 24.)

In this paper Mr. Meade recommends the direct abstraction of blood from the neck of the womb, by making incisions, or rather punctures,

into its substance. Quite as much blood, he says, can thus be obtained as by means of leeches, and in a much more easy and rapid manner. The whole operation may be completed in two or three minutes, without any fuss or preparation, at the same time as the necessity for its performance is ascertained by an examination with the speculum.

In advocating this method of treatment Mr. Meade does not bring it forward as any novelty, for he is aware that scarification of the lips of the womb has been recommended by many authors for the relief of congestion and inflammation of the cervix; but he cannot find, in the works which he has consulted, any precise directions as to the method of its performance. It has been compared to scarification of the palpebral conjunctiva, and he presumes is therefore expected to be performed in a similar manner—namely, by drawing the edge of a sharp lancet lightly across the inflamed surface. Very little blood could be thus obtained, and he is not surprised at leeches being recommended in preference to scarification, in cases where much depletion is desired.

The plan Mr. Meade adopts is to make a number of punctures or stabs with a straight lancet-pointed bistoury, having a long handle, which stabs he makes more or less deeply and more or less numerous, in proportion as he thinks it necessary to take away much or little blood. From one to two or three ounces may be easily thus procured. Of course a speculum must be used, and the one which Mr. Meade prefers is a bivalve one, with wide flat blades, called, he thinks, Tyler Smith's speculum by the instrument makers. The blades are not very long, and being wide at their extremities, when fully expanded they stretch and shorten the walls of the vagina, so that the cervix uteri readily falls between them, and is easily seen and reached. Another advantage of this speculum is, that when closed it is very easy of introduction.

In this mode of abstracting blood, it is seldom necessary to puncture or cut very deeply; but incisions in the lips or neck of the womb seem to heal very readily. Mr. Meade has never seen the slightest inconvenience follow, however deeply he has made them, with the exception of the bleeding being rather profuse.

Three cases are related to show the benefit that may be derived from the treatment advocated, in three distinct varieties of inflammatory disease of the uterus.

Art. 275.—*The Treatment of Intra-uterine Polypi.**

By George H. Kidd, M.D., F.R.C.S.I.

(*British Medical Journal*, August 8.)

This paper opened by showing that we are indebted to Sir James Simpson's application of sponge-tents for the dilatation of the uterus, for being able to detect or treat intra-uterine polypi; but sponge-tents, it is shown, are liable to many objections. They become very fœtid when they have been a few hours in the uterus; they require prolonged and repeated applications before they open up the canal of the

* Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

cervix to allow of a complete exploration of the uterus; and they dilate the os externum to an unnecessary degree before they act on the os internum; and their use may give rise to so much irritation as to be attended with fatal consequences. Instead of sponge, Dr. Kidd recommends the use of sea-tangle, with pieces of which, sufficiently long to traverse the whole cavity of the uterus, and of about the size of a No. 5 or 6 bougie, he fills the canal of the cervix as completely as it can be done without using force or causing pain. If the os should be abnormally small, it might be necessary to introduce a single tent for a few hours, as a preparation for more full dilatation; but in general the parts are so relaxed by the hæmorrhage from the polypi, that five or six or more pieces can be introduced at the first attempt; and this is found sufficient to permit of a full exploration of the uterus, and the removal of any polypi found in it. For extracting the polypi, the use of a single wire *écraseur* is found the most certain and simple method. The tumour is seized in a vulsellum, guided to it by the finger on the uterus; and then the loop of the *écraseur* is guided to it by the vulsellum, and adapted round its neck by the finger, when tightening the screw divides the attachment of the tumour, allowing it to be extracted along with the vulsellum by which it had been seized. Dr. Kidd stated that he had operated in this way on very many cases during the last three years, and had always found it safe and efficacious; and he concluded by exhibiting twenty-nine fibrous polypi that he had removed in this way from the interior of the cavity of the body of the uterus of an unmarried woman aged fifty six, at four operations; three being removed in the first operation, in September, 1867; nine in the second, in March, 1868; eleven in the third, in May; and six in the following July; when the interior of the uterus was freely painted over with strong nitric acid, with the hope of preventing their further growth; and, for so far, with good effect. The tumours were found, on microscopical examination, to be simply fibrous, differing in this respect from the recurrent fibroid tumours described by West and others; and Dr. Kidd stated that he believed the case to be unique in the annals of medicine.

Art. 276.—*On Fibrous Bodies and Polypi of the Uterus existing during Pregnancy and after Delivery.*

By Dr. Forget.

(*L'Union Médicale*, No. 71, 1868; and *Seance du Société Impériale de Chirurgie*, Juin 10, 1868.)

Dr. Forget investigates the three following questions:—

1. What is the influence of fibromata on pregnancy, and *vice versâ?*

2. How do these neoplasms act as causes of dystocia at the time of delivery, and of the ulterior affections, whether primary or consecutive?

3. The proper course of action for the surgeon to take in such cases, and the necessity for immediate or delayed treatment?

Dr. Forget recognises three kinds of uterine fibrous tumours—1. The interstitial fibrous bodies developed in the thickness of the organ. 2. Sub-peritoneal fibromata. 3. Polypi, properly called, which are attached by a pedicle to the inner surface of the uterine cavity. These fibromata may be either solitary or multiple, and occupy some part of the utero-vaginal apparatus.

With regard to the interstitial fibrous bodies, Dr. Forget states that when these growths exist before pregnancy, the most frequent effect of the pregnant condition is to increase their vitality, to augment their volume, and to quicken their ulterior progress after delivery. The vascularization of the fibrous bodies and intra-uterine fibrous polypi during pregnancy is explained by the excessive nutritive action of which the uterus is the seat during gestation, and in which the pathological formations attached to it necessarily share. Hence the hæmorrhages to which these tumours give rise, and which are favoured after delivery by the obstacles they form to contraction of the uterine walls.

The spontaneous expulsion by enucleation after delivery of interstitial fibrous tumours, may be also followed by more or less abundant hæmorrhage, occasioned by laceration of a portion of the uterine tissue which separates the fibrous body from the cavity of the organ.

Dr Forget observes that hæmorrhage has an occasional source in the fibrous body itself; he adds that Lisfranc, in his lectures, insisted particularly upon this form of fibrous polypus, the special structure of which renders it liable to bleed, and which when complicated with pregnancy is extremely formidable.

Investigating the question of the influence of fibrous bodies upon miscarriage, and rupture and version of the uterus, Dr. Forget admits the rare occurrence of these accidents in connection with this cause; uterine inversion, however, occurs, and as may be readily comprehended, with greater frequency in cases of intra-uterine polypi than in those of interstitial fibromata. The question is raised whether the medical attendant ought or ought not to advise against marriage a female affected with uterine fibrous growths. Dr. Forget, making some formal reservations on this point, seems inclined to forbid marriage by reason of the accidents of dystocia, the frequently fatal hæmorrhage, &c., to which the woman may fall a victim during labour or after delivery.

In dealing with the proper polypi of the uterus, the author makes a division of these into cellulo-vascular and fibrous polypi. He cites a case reported by Lisfranc of a cellulo-vascular polypus having brought about a miscarriage after frequent and profuse hæmorrhages.

Fibrous polypi, the author states, vary in size, are sometimes very large, and may be seated in the vulva, vagina, or uterus. They cannot interfere with pregnancy, and present but a slight obstacle to delivery.

Fibrous polypi contained within the uterus comport themselves in the same way as the fibrous bodies; like the latter growths they oppose the contraction of the uterus upon itself; in addition, from the vascularity with which they are sometimes endowed to a high degree, they may become the source of serious and often fatal hæmorrhage.

Dr. Forget terminates his memoir with the following conclusions:—

1. Fibromata in all their varieties of form, size, and seat, form no obstacles to conception.

2. Polypi complicating pregnancy, even when they are voluminous, do not generally stand in the way of the evolution of this process, and may present but a feeble obstacle to delivery.

3. Polypi may occupy the vagina or be contained within the uterus at the time of delivery.

4. Polypi which are seated in the passage of the vulva constitute a source of danger to the life of the infant. Intra-uterine polypi, on the other hand, are dangerous to the mother, in consequence of the hæmorrhage which they may set up.

5. Intra-uterine polypi are more readily eliminated than fibrous bodies at the time of delivery: their form, and the small size of the pedicle, renders them independent of the tissue of the uterus.

6. Inversion of the uterus after pregnancy, when complicated with a fibrous growth or polypus, may be the result of uterine contractions, and also of irrational manœuvres exercised upon the foreign body.

7. The question of the fitness for operation when a fibrous body or polypus is presented after delivery in a condition accessible to instrumental working, forms a problem which may be resolved in various ways.

8. When the womb is firm and surrounds the body contained within its cavity without giving rise to any serious hæmorrhage, it is wise to abstain from all attempts, and to wait until the uterine conditions special to the pregnant state have ceased. The same course should be followed in a case of intra-vaginal polypus.

9. When a fibrous polypus gives rise to a serious hæmorrhage, or forms an obstacle to the passage of the fœtus, thus constituting sources of danger, surgical interference is imperatively demanded.

10. A polypus may be tied, excised, or even twisted away, either directly after delivery or at a later period, without being followed by any bad symptoms; the single ligature, however, if the polypus be small, or the ligature and incision when the growth by its weight occasions by its dragging very severe pain, constitute the best method of treatment. Excision must be rejected in all cases where the patient has been exhausted by hæmorrhage—the smallest loss of blood may be fatal; and even when this antecedent has not existed, the ligature is still indicated, for it has been demonstrated by experience that in operating on a polypus a short time after delivery, a greater risk is run of meeting with large blood-vessels in the pedicles, than when the uterus has not been recently modified by pregnancy.

Art. 277.—*On Fibrous Growths of the Uterus complicating Pregnancy and Delivery.**

By Dr. Depaul.

(*Gazette Hebdomadaire*, No. 34.)

Fibromata are parasitic bodies which are developed in the uterine tissue; they are unprovided with vessels and nerves, and are nourished

* Communicated to the Société Impériale de Chirurgie.

through imbibition. Their structure is made up of a number of smooth muscular fibres, and fibres of connective tissue, and some fibro-plastic tissue and amorphous granular material.

What influence is exercised on pregnancy by pedunculated or interstitial peritoneal fibromata? As a rule they do not oppose pregnancy. But it is not a matter of indifference whether these peritoneal fibromata be pedunculated or furnished with a broad base. Those which are pedunculated do not prevent the development of the uterus; those with a broad base may produce disturbances, prevent the development of the uterus, set up slight pain, and sometimes lead to abortion. Peritoneal fibromata may cause metritis. M. Guéniot has published a case of this kind; peculiar symptoms are often observed, which seem to correspond to an inflammation of the uterine tissue, corresponding with pregnancy.

Pregnancy generally follows its course and attains its full term, when the woman may be spontaneously delivered. But this does not occur always. Fibrous growths sometimes undergo enormous development, and when they exist in the pelvis may close it, producing compression of the bladder and rectum, and leading to bad results.

What is the influence of pregnancy upon fibrous growths? M. Guéniot thinks that they do not undergo much increase in size under the influence of pregnancy, and he asserts that their consistency is not modified during gestation. M. Depaul does not agree with these views, and appeals to general surgical experience to support him. He has often observed a retention of urine in the subjects of uterine fibromata during a menstrual period, and thinks that the growths are at this time increased in volume. It is a rare occurrence, according to Dr. Depaul, for an interstitial fibrous growth or a pedunculated tumour *not* to increase during pregnancy. M. Guéniot's observations were generally made at the end of pregnancy on females whom he had had no opportunities of seeing before or since the period of that condition.

Some years back Professor Depaul had an opportunity of examining a lady who suffered from disturbed menstruation. The neck of the uterus had undergone some changes, and the womb itself seemed larger than when in its normal condition. In its anterior wall existed a small fibrous tumour of the size of the ingual phalanx of the thumb, and with a broad base. At the end of one month the fibrous growths at the uterus were found to be elevated. Pregnancy was diagnosed. At a later period Professor Depaul revisited the lady, who was six months advanced in pregnancy, and found that the tumour had increased in size; at the time of delivery it was as large as an orange. Subsequently, after delivery, it became smaller and regained the dimensions first described.

In the year 1867, Professor Depaul was called in by M. Rotureau to a lady, aged thirty-one years, who had been pregnant for about four and a half months. Above the pubis was a small tumour similar to that observed in the preceding case, perhaps somewhat larger, and with some tendency to become pedunculated. The growth was then of the size of a nut; at the time of delivery it was as large as the fist. Labour was natural. In the course of a few months the tumour was reduced to its former size.

Professor Depaul thinks with Danyau, Dubois, and Ashwell, that nothing has been better demonstrated than the influence exercised by pregnancy upon fibrous growths. This influence is not always the same. Sometimes there is an enormous increase in volume, but the progress may be less rapid. Fibromata are developed irregularly during gestation as they are when the woman is not pregnant. In a patient affected with three uterine fibromata, one of the growths scarcely increased, whilst the other became enormously augmented in volume. Pedunculated fibrous growths develop to a less extent than those furnished with broad bases. In the two cases previously spoken of, the tumours were rounded and not flattened; the increased development of fibromata which takes place during pregnancy is not due to the eccentric pressure of the ovum rendering the growth more appreciable by the touch.

Art. 278.—*Case of Cauliflower Excrescence.*

By A. Jacobi, M.D., Professor of Infantile Pathology and Therapeutics in University Medical College, New York, &c.

(*The American Journal of Obstetrics*, May.)

At a meeting of the New York Obstetrical Society, Dr. Jacobi presented a specimen with the following history:—

In July last a woman, eight months advanced in pregnancy (primipara), was admitted into the Lying-in Department of the Nursery and Child's Hospital. As is the rule in that institution, she was examined on admission by the touch and with the speculum. The house-physician observing through the speculum a peculiar discoloration of the cervix, called the attention of Dr. Jacobi to the appearance. Dr. Jacobi found the cervix short, broad, and soft, the os being patulous, so that the finger could easily reach the os internum and touch the membranes.

Through the speculum the part presented a grayish-white appearance, resembling the cauliflower cancroid. It bled readily when touched, and quite freely on the removal of a small piece for examination. Under the microscope it was seen to consist almost entirely of cells, mostly large pavement epithelial and some spindle-shaped and smaller cells, a large amount of granular detritus, and spherical corpuscles enclosed in masses of concentric fibres. There could be no doubt that it was a papillary growth of the kind known as cauliflower excrescence.

Dr. Jacobi determined to induce premature labour at once, with a view to the removal of the diseased part as soon as possible after delivery. He did not deem it safe to allow the woman to go her full time, lest, on account of the physiological congestion of the womb and its rapid development at this period, the disease should advance, *pari passu*, and grow to such an extent as to greatly imperil, if not destroy, the chances of entirely removing it. He at once introduced his hand, turned, and delivered, the whole process being accomplished in about fifteen minutes.

To lose no time, ten days after delivery, Dr. Jacobi proceeded to

remove the diseased cervix. It was drawn down with great difficulty; and with the assistance of Dr. Guleke he succeeded, after numerous failures and the destruction of several wires, in encircling part of it with the galvano-caustic wire, and removing portions of the diseased mass. When it was no longer possible to remove any more in this manner, the olive-pointed galvano-caustic iron was applied to what remained of the cervix, and its destruction effected in this way. The patient recovered well after the operation, and was seen by Dr. Jacobi only a few days ago. He found, on examination, the cervix entirely gone, the uterus measuring about an inch and five-eighths in length. The cicatrix was smooth and firm, and the general health of the woman quite good. There was not light enough on this occasion for examination with speculum. The patient has menstruated since the operation.

Art. 279.—*Treatment of Uterine Cancer by Carbolic Acid and Glycerine of Tannin.*

By W. Playfair, M.D., M.R.C.P., Assistant Obstetric Physician at King's College Hospital.

(*The Practitioner*, August.)

Dr. Playfair reports the encouraging success which he has obtained from the application of this treatment. He mixes glycerine of tannin and carbolic acid in equal proportions, and applies a pledget of cotton wool, soaked in the mixture, to the cervix uteri. In the first case in which he applied it there had been irregularly recurring hæmorrhage; the application of perchloride of iron checked this, but four months later the bleeding recurred, and the disease was now found to have made great progress, the cervix being extensively infiltrated with malignant deposit, and general cachexia having appeared. The new remedy was now applied on the cotton wool, which was drawn out of the vagina with a string, and resoaked, twice a week; the vagina was also washed out twice daily with a tablespoonful of the mixture in a pint of water. Fœtor entirely disappeared, and the hæmorrhage has never recurred; the patient has gained flesh, and her complexion has improved. Similar success in removing fœtor and restraining hæmorrhage has attended Dr. Playfair's application of the remedy in several subsequent cases of malignant uterine disease; and though this be only a palliative measure, yet it is no trifling matter to produce such a considerable improvement in the health and comfort of such patients.

(c) Concerning the Diseases of Children.

Art. 280.—*On Bronchitis Sicca in Children.*

By Professor Steiner of Prague.

(*Jahrbücher fur Kinderheilkunde*, 1868; *Schmidt's Jahrbücher*, No. 7, 1868.)

The dry catarrh of the air-passages, occurring not unfrequently in adults, has already been recognised and fully described by Laennec; but

this observer found that the affection had been scarcely mentioned in the literature of children's diseases. Professor Steiner, in his article, details the information on this subject which he has had opportunities of gaining. His observations relate only to such cases as those of dry catarrh in children, which is either spontaneously developed, or the propagation of which from the coarser to the finer bronchi, can be readily demonstrated; none of the affected children had previously suffered from whooping-cough, and on post-mortem could no other disease be discovered than the morbid changes set up by dry catarrh of the air-passages.

Post mortem appearances.—On opening the thoracic cavity the lungs were found distended; these viscera were of a dark-red colour, and marked at their posterior and depending parts by some patches of atelectasis; the rest of the pulmonary tissue contained air, and at the margins and on the surfaces of the lungs were emphysematous swellings; on section the pulmonary tissue was found to be dark in colour, but otherwise normal. The mucous membrane of the bronchi, from the bifurcation to the smallest divisions of the air-tubes, was unusually hyperæmic throughout, much thickened, but still uncovered by secretion; only in some of the small bronchi was there found a small quantity of tenacious transparent secretion. The lymphatic glands situated along the trachea were hyperplastic, some of these being in a state of caseous degeneration. In addition to these appearances there was venous stasis in the meningeal vessels, and also some serous effusion into the subarachnoid areolar tissue and the ventricles; there was general anæmia.

Symptomology and Course.—The most characteristic symptom is the laborious breathing, which during expiration is very evident. In the children observed by Professor Steiner, none of whom were more than four years of age, it was frequently noticed that the respirations were as high as 40 and 48 in the minute; the highest number was reached before a fit of coughing, and in the course of the night. The expiratory murmur is always harsh, and at times may be heard at a distance; it is either a short and spasmodic, or a protracted wheezing sound. The special and accessory muscles of respiration, in consequence of the dyspnœa, which sometimes increases to pronounced asthma, become more or less hypertrophic. Additional characteristic signs are frequently repeated irritation of the air-passages, and actual attacks of coughing, frequently severe, which are similar to those of whooping-cough, except that there is an absence of the spasmodic inspiration, the mucous gurgling, the vomiting, and the typical course of the latter affection. These attacks of coughing last from some seconds to several minutes. The cough is perfectly dry, whistling, and without mucous gurgling; sputa are never expelled from the bronchi, even after a long continuance of the affection. Percussion gives but negative results; on auscultation is found merely a harsh vesicular murmur, and dry crepitation; only towards the end of life does the vesicular murmur become gradually weaker. The affection follows its course with very slight, or even with no fever; the temperature is sometimes below the standard. The pulse is generally accelerated and small. After a long duration of the affection, symptoms of blood-stagnation appear, especi-

cially in the cerebral region; the children become indifferent, helpless, and restless; afterwards death is foreboded by partial and general convulsions, and finally occurs among all the phenomena of hydrocephalus, and after the development long before of a condition of marasmus.

Dry catarrh of the lungs almost always results in death; but in all cases continues, with occasional temporary improvement and progressive deterioration, for several months. In all the cases observed by Professor Steiner the disease was developed spontaneously, and was not the result of an emphysema; the patients belonged to the poorer classes; in two cases it seemed probable that the development of the disease had been favoured by residence in an unhealthy, dark, and damp cellar; in another case there were traces of rickets; in one other instance the lesion was attributed by the mother to a previous attack of measles. In none of the cases could Professor Steiner gather either from the history of the patients or from objective signs that there had been whooping-cough, cardiac affections, tuberculosis, scrofula, pneumonia, or stenosis of the superior air-passages.

The therapeutical indications presented by the anatomical conditions and the symptoms of the diseases are the following:—

1. To remove the hyperæmia and swelling of the bronchial mucous membrane.
2. To excite moderate secretion.
3. To alleviate the laryngeal irritation, the dyspnœa, and the asthmatic attacks.

Professor Steiner has frequently observed temporary amelioration after the removal of the patient from an unhealthy residence to the hospital. The children of people in good circumstances should be carried in the winter to some southern climate, and during the summer be allowed to breathe moist warm sea air. In default of this last means of treatment, Professor Steiner orders the inhalation of simple aqueous vapour; alkaline mineral waters, either alone, or combined with milk or whey, are recommended. No result is to be expected from the use of expectorants. On the other hand, such stimulants as benzoin, liquid ammonia, and tincture of sesquichloride of iron, are occasionally of service for relieving the dyspnœa.

Art. 281.—*Asphyxia of a New born Child produced by a Congenital Bronchocele.*

By Prof. C. Hecker.

(*Mon. f. Geburtsk.*, xxxi. 2 u. 3, 1868; and *Schmidt's Jahrbücher*, No. 8, 1868.)

On the 22nd of June, 1867, a woman thirty-nine years of age, and affected with a considerable tumour in front of the neck, was delivered of her fourth child, the vertex of which had been presented. This child, a male, and weighing seven pounds, cried several times after birth, but soon after division of the umbilical cord suddenly expired, and, in spite of very energetic attempts to restore life, could not be made to breathe again.

The supposition that a large congenital bronchocele, which was at once apparent, had obstructed respiration, was completely proved by the post-mortem examination. The thyroid gland was found very much enlarged; it closely surrounded the trachea, and extended backwards between this tube and the œsophagus. The gland weighed 41·6 grammes, whilst, according to the estimates of Buhl, its mean weight is 7·78 grammes, and its maximum weight 24·8 grammes; the thyroid body in this case, then, weighed nearly six times the mean weight of the normal gland. The tissue of the gland was healthy, and in a condition of simple hypertrophy. It was readily perceived that great pressure had been exerted by the bronchocele on the trachea, for this tube in its passage through the gland was flattened to a great degree, and its calibre very much diminished

The thymus gland weighed 9·6 grammes, the mean weight being 8·42 grammes, and thus had not increased in size; the lungs contained air, and, in consequence of the forcible attempts made to introduce air, were very emphysematous.

Art. 282.—*Treatment of Croup.*

By A. Jacobi, M.D., Professor of Infantile Pathology and Therapeutics in the University Medical College, New York.

(*Thi American Journal of Obstetrics*, May.)

At a meeting of the New York Medical Society, Dr. Jacobi remarked, that the remedies recommended for croup are as numerous as those against any known disease. From this alone we might infer how little reliance is to be placed upon any of them. The less curable any malady, the greater the number of remedies. The reason why so many different remedies have been extolled for this affection is to be found in the number of different morbid conditions which have been included under the term croup. Of this disease there are many different forms, ranging from simple catarrhal inflammation to the very fatal membranous form occurring in diphtheria. Each of these different forms will require a somewhat different mode of treatment. They all, however, have one symptom in common—some obstruction to the passage of air through the larynx. The use of emetics he has seen attended with beneficial results in a certain number of cases, more particularly of the catarrhal form. Also in some cases of the same kind in which fibrinous deposits have taken place, they seem to be serviceable by equalising the circulation and diminishing the swelling of the mucous membrane and vocal cords. But in cases of croup occurring in diphtheria, with the constitutional disturbance which exists in that affection, emetics are only productive of mischief. Possibly, even in these cases, they may be resorted to to remove a membrane already detached or loose, but only when the evidences of such detachment are unmistakable, for the results of post-mortem examinations show how closely adherent these membranes commonly are, and how little we can hope to detach them by emesis. As to the choice of emetics, he would prefer sulphate of zinc or of copper. Tartar emetic is too prone to produce troublesome or even dangerous

diarrhœa. The continued use of sulphate of copper in small doses after its first emetic action, although recently again recommended by high authority, has never in his experience been attended with any beneficial results. Muriate of ammonia is not deserving the encomiums that have been lavished upon it. Although it may be, and probably *is*, serviceable in liquefying the secretions, and thus favouring their expectoration in cases of catarrhal inflammations of the air-passages generally, yet in true croup it is probably of no service whatever. In Germany it is a remedy so commonly in use, that when a physician is at a loss what to prescribe, it generally presents itself as the most innocent medicament that he can resort to, and this circumstance perhaps best indicates its real value. The chlorate of potassa, or its equivalent, the chlorate of soda, he frequently gives, partly because he *must* give something, and partly because of its general antistomatitic properties. It is generally serviceable in most inflammatory affections of the mouth and throat, and helps to sustain the strength of the patient. Mercurials are probably worse than useless. He never resorts to them. Respecting inhalations, and topical applications of heat and cold, we must remember that we are dealing with a local inflammation in which there is a dilatation of the vessels, and a constant formation of new cells taking place, and we must therefore guard against the use of any measures that may tend in any way to increase or favour this morbid condition. Warmth, therefore, should be avoided as tending to promote dilatations and cell-formation, and cold should be preferred. The constant application of ice to the larynx may be productive of much benefit in a certain number of cases. The inhalation of warm vapour does not appear reasonable or likely to be of any service. There is already too little air entering the lungs, and saturating the atmosphere with moisture must lessen even this little.

The application of nitrate of silver to the false membrane, although at one time much used by him, he does not consider to be of any service. Under any plan of treatment the mortality in croup is very great, rising as high as ninety or even ninety-five per cent. in severe epidemics, and seldom if ever falling below seventy per cent. Since then so large a proportion of cases are inevitably fatal under any of the plans of treatment that have been proposed, we should look with great favour on any procedure which promised to save even a small per centage of the cases that would otherwise certainly die. Such a procedure we find in tracheotomy, which, although commonly resorted to only in articulo mortis, has yet saved more lives than all other methods of treatment combined. From a number of statistics cited by Dr. Jacobi it appears that even in very bad cases tracheotomy is successful in about twenty per cent., and when resorted to in the earlier stages the per centage of successful cases rises as high as from twenty-seven to forty-five per cent. In his own practice he had saved thirteen out of sixty.

Dr. Krackowizer had operated probably some sixty times, with about the same per centage.

Dr. Krackowizer's Statistics.—Operations of tracheotomy for croup, 56; deaths, 40; recoveries, 16; total, 56.

Causes of Death.—Asphyxia during operation, 1; granulations

from cicatrix, 1; exhaustion and pulmonary œdema, 4; infectious diphtheria, 3; scarlatina, 1; descending croup and bronchitis, 30; total, 40.

Dr. Voss had operated about fifty times; the per centage of his earlier cases being even much larger than this.

These results should leave no doubt as to the very great value of this operation, the only indication necessary for its use being obstruction of an inflammatory character in the larynx, threatening death. Scarcely any condition contra-indicates it, not even the presence of pneumonia. As to the objection that it is useless when the membrane extends below the larynx into the trachea and larger bronchi, he would only state that we have no means of determining the presence of false membrane below the larynx, and ought not to be deterred from the operation by a mere conjecture.

Art. 283.—*On Progressive Fatty Muscular Atrophy of Infancy.*

By Dr. Duchenne of Boulogne.

(*Gaz. des Hôpitaux*, No. 105, 1868.)

Dr. Duchenne reports three additional cases of progressive muscular atrophy, occurring in these instances in members of the same family. A boy, aged nine years, was brought to him with all the symptoms of this affection well marked, particularly the peculiar expression of the face due to immobility of the motor muscles of the lips. It was subsequently discovered that an elder brother, aged fourteen years, was affected with weakness of the right arm owing to advanced atrophy of the serratus magnus, the deltoid, the lower two-thirds of the pectoralis major, and some other muscles of the trunk. The mother of these two boys was also the subject of atrophy of the muscles of the right arm, particularly the deltoid and serratus magnus; this she stated came on at the age of thirteen years. The following clinical facts were presented by these three cases:—

1. That progressive fatty muscular atrophy commenced with two boys in infancy by attacking the motor muscles of the lip, which became atrophied in varying degrees; that the affection then remained stationary for some years, and afterwards started again upon its progressive and invading course, and attacked the muscles of the trunk; that these two cases consequently accord with fifteen others previously reported by Dr. Duchenne, in order to demonstrate that fatty muscular atrophy of infants commences and progresses in this manner.

2. That these two cases of progressive muscular atrophy were transmitted by inheritance from the mother, who had herself been the subject of the affection from the age of thirteen years. This fact, added to other analogous cases previously reported, shows that muscular atrophy of infancy is generally hereditary.

3. That this progressive fatty muscular atrophy of infancy had not attacked a third child (a girl), who in her physiognomy and general strength resembled her father, a very powerful and well-built man;

this recalls an analogous clinical fact, in which the germ of this hereditary affection attacked but two children out of five, and in which the father himself had transmitted this germ some years before he himself presented any external manifestations of it.

Art. 284.—*On Hot Baths as a cause of Trismus in New-born Infants.*

By Dr. Keber.

(*Monats. f. Geb.*, June; and *British and Foreign Med.-Chir. Review*, Oct.)

It was observed that a large number of cases of tetanus had occurred in new-born infants in the town of Elbing. It was further found that almost all these cases had arisen in the practice of one midwife. Inquiry was instituted. It appeared that during 1864 and 1865 this midwife had attended 380 labours with a result of 99 cases of tetanus in the children! It further appeared that hardly any cases occurred in the practice of the eleven other midwives in the town. Dr. Busch, a physician in the town, who was called in to several of the cases, thus describes the symptoms:—

The first was the child's refusing the breast. This never occurred before the third day from the birth, most frequently on the fifth or sixth day, and once on the tenth. If the finger is at this time inserted between the jaws, stiffness is felt. The child cries, and the features contract spasmodically. In twelve or fourteen hours these symptoms are more marked. After a warm camomile bath the cramp subsides; the child sleeps quietly, but its breathing is scarcely visible. Presently the jaws cannot be separated. The slightest touch evokes spasms in the face and limbs. The fingers are held fast in the palm, the thighs are bent upon the abdomen, the muscles of the abdomen are hard. Warm baths bring no more relief. Later, it is not necessary to move the child to cause spasm. It is enough to touch the bed or to clap one's hands. The child becomes in the fit blue in the face, cries plaintively, and foams at the mouth. Death usually ensued on the third or fourth day. Shortly before death the convulsions ceased, the respiration, which had always been regular, became shorter, and at length ceased without signs of dyspnœa. The rigor mortis was very strong, but did not last long. Dr. Busch never observed inflammation of the navel, or of its vessels.

The practice of the midwife in the conduct of the labour and the management of the child was minutely observed. The conclusion formed was that she washed the child in water that was unusually hot. She was cautioned to use a thermometer, and not to exceed a temperature of 28° C.

Whether this was followed by the disappearance of tetanus is not reported.

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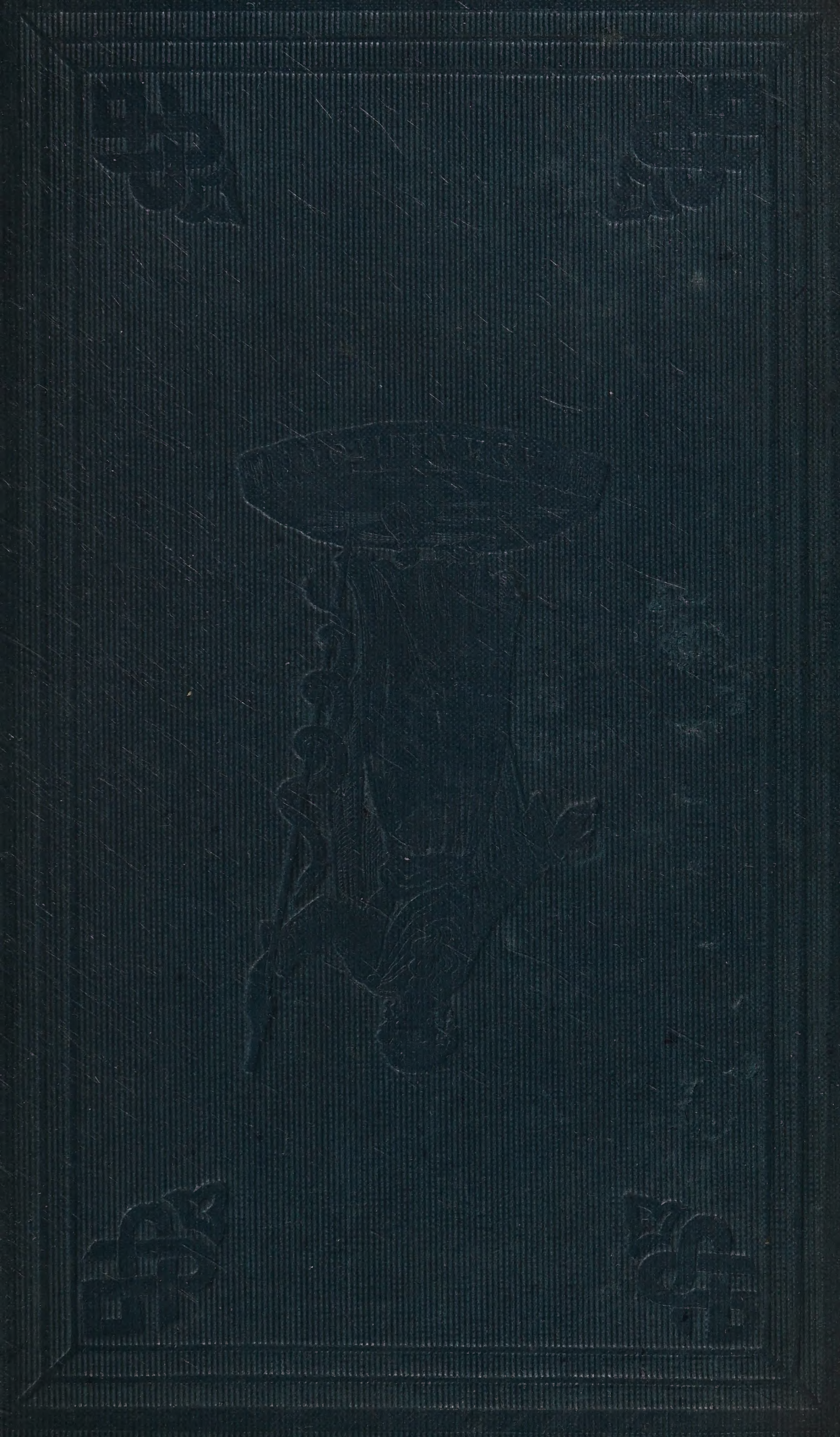
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